VIMA JM-5

Owner's Manual

Roland

For C.A. US (Proposition 65)

WARNING

This product contains chemicals known to cause cancer, birth defects and other reproductive harm, including lead.

For EU Countries

CE

This product complies with the requirements of European Directive EMC 2004/108/EC.
Dieses Produkt entspricht der europäischen Richtlinie EMC 2004/108/EC.
Ce produit est conforme aux exigences de la directive européenne EMC 2004/108/EC.
Questo prodotto è conforme alle esigenze della direttiva europea EMC 2004/108/EC.
Este producto cumple con la directrice EMC 2004/108/EC de la CE.
Dit product beantwoordt aan de richtlijn EMC 2004/108/EC van de Europese Unie.

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

For the U.K.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.
Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.

For the USA

DECLARATION OF CONFORMITY Compliance Information Statement

Model Name : VIMA JM-5
Type of Equipment : Sound Module
Responsible Party : Roland Corporation U.S.
Address : 5100 S. Eastern Avenue, Los Angeles, CA 90040-2938
Telephone : (323) 890-3700

Roland

VIMA JM-5

Owner's Manual

Thank you and congratulations on your choice of the Roland VIMA JM-5.

To ensure that you obtain the maximum enjoyment and take full advantage of the JM-5's functionality, please read this owner's manual carefully.

About this manual

You should first read the chapter "Before you start using the JM-5" on p. 14. It explains how to connect the AC adaptor and turn on the power. This Owner's Manual explains everything, from the JM-5's basic operations to more advanced functions.

Conventions in this manual

In order to explain the operations as clearly as possible, this manual uses the following conventions:

- Text enclosed in square brackets [ ] indicates the name of a button or knob. Example: the [PLAYLIST] button.
- Paragraphs that begin with "NOTE" are cautionary statements that you must read.
- Paragraphs that begin with "MEMO" contain useful information that may come in handy.
- The numbers of pages that you can turn to for additional or related information are given like this: (p. **).

The explanations in this manual include illustrations that depict what should typically be shown by the display. Note, however, that your unit may incorporate a newer, enhanced version of the system (e.g., include newer sounds), so what you actually see in the display may not always match what appears in the manual.

Before using this instrument, carefully read "Using the unit safely" on p. 4 and "Important notes" on p. 6. Those sections provide information concerning the proper operation of the JM-5. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, the manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

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USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠WARNING and ⚠CAUTION Notices

⚠WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

⚠	The △ symbol alerts the user to important instructions or warnings.The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The ⃠ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The ● symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING

⚠WARNING

- Do not open (or modify in any way) the unit or its AC adaptor.

- Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

- Never install the unit in any of the following locations.
  - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
  - Damp (e.g., baths, washrooms, on wet floors); or are
  - Exposed to steam or smoke; or are
  - Subject to salt exposure; or are
  - Humid; or are
  - Exposed to rain; or are
  - Dusty or sandy; or are
  - Subject to high levels of vibration and shakiness.

- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.

- Be sure to use only the AC adaptor supplied with the unit. Also, make sure the line voltage at the installation matches the input voltage specified on the AC adaptor's body. Other AC adaptors may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock.

- Use only the supplied power-supply cord. Also, the supplied power cord must not be used with any other device.

- Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!

⚠WARNING

- This unit, in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level, or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist.

- Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit.

- Immediately turn the power off, remove the AC adaptor from the outlet, and request servicing by your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page when:
  - The AC adaptor, the power-supply cord, or the plug has been damaged; or
  - If smoke or unusual odor occurs
  - Objects have fallen into, or liquid has been spilled onto the unit; or
  - The unit has been exposed to rain (or otherwise has become wet); or
  - The unit does not appear to operate normally or exhibits a marked change in performance.

- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.

- Protect the unit from strong impact.
  (Do not drop it!)

⚠WARNING

- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.

- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

⚠ CAUTION

- The unit and the AC adaptor should be located so their location or position does not interfere with their proper ventilation.

- Always grasp only the plug on the AC adaptor cord when plugging into, or unplugging from, an outlet or this unit.

- At regular intervals, you should unplug the AC adaptor and clean it by using a dry cloth to wipe all dust and other accumulations away from its prongs. Also, disconnect the power plug from the power outlet whenever the unit is to remain unused for an extended period of time. Any accumulation of dust between the power plug and the power outlet can result in poor insulation and lead to fire.

- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.

- Never climb on top of, nor place heavy objects on the unit.

- Never handle the AC adaptor or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit.

- Before moving the unit, disconnect the AC adaptor and all cords coming from external devices.

- Before cleaning the unit, turn off the power and unplug the AC adaptor from the outlet (see p. 17).

- Whenever you suspect the possibility of lightning in your area, disconnect the AC adaptor from the outlet.

- Keep the included screw in a safe place out of children's reach, so there is no chance of them being swallowed accidentally.

- Always turn the phantom power off when connecting any device other than condenser microphones that require phantom power. You risk causing damage if you mistakenly supply phantom power to dynamic microphones, audio playback devices, or other devices that don't require such power. Be sure to check the specifications of any microphone you intend to use by referring to the manual that came with it.
(This instrument's phantom power: 48V DC, 10mA Max)

1. Important notes

In addition to the items listed under "Using the unit safely" on p. 4, please read and observe the following:

Power supply

- Do not connect this unit to same electrical outlet that is being used by an electrical appliance that is controlled by an inverter (such as a refrigerator, washing machine, microwave oven, or air conditioner), or that contains a motor. Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- The AC adaptor will begin to generate heat after long hours of consecutive use. This is normal, and is not a cause for concern.
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the JM-5 near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this instrument or move it further away from the source of interference.
- This device may interfere with radio and television reception. Do not use it in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.
- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the JM-5. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
- Depending on the material and temperature of the surface on which you place the unit, its rubber feet may discolor or mar the surface.
  You can place a piece of felt or cloth under the rubber feet to prevent this from happening. If you do so, please make sure that the unit will not slip or move accidentally.
- Do not put anything that contains water (e.g., flower vases) on this unit. Also, avoid the use of insecticides, perfumes, alcohol, nail polish, spray cans, etc., near the unit. Swiftly wipe away any liquid that spills on the unit using a dry, soft cloth.

Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, nonabrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzene, thinner, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Additional precautions

- Unfortunately, it may be impossible to restore the contents of data that was stored on a USB storage device once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the JM-5's buttons, other controls and jacks/connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When connecting/disconnecting cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- To avoid disturbing your neighbors, try to keep the JM-5's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.

About the MIDI IN/OUT socket

- The JM-5 is equipped with standard MIDI IN functionality. Since the JM-5 can also transmit V-LINK messages, you can set this socket to function as MIDI OUT. See "MIDI Direction" on p. 58 and "V-LINK function" on p. 72 for details.

Storage devices that can be connected to the JM-5's USB port

- The JM-5 allows you to connect commercially available storage devices, like USB Flash memory, CD-ROM drives, and hard disks. You can purchase such devices at a computer store, a digital camera dealer, etc.
- Though external hard disks with a capacity in excess of 2TB can be used, please bear in mind that the JM-5 can manage a maximum of 2TB. (FAT-32 formatted storage devices can be used right away.)
- Use USB memory sold by Roland. We cannot guarantee operation if any other USB memory is used.

Before using external USB storage devices

- When connecting a USB storage device, firmly insert it all the way into the JM-5's USB port.
- Do not touch the pins of the USB memory port or allow them to become dirty.
- While using an external USB storage device, please observe the following points when handling it:
  - To prevent damage from static electrical charges, discharge any static electricity that might be present in your body before handling a USB storage device.
  - Do not touch the terminals with your fingers or any metal object.
  - Do not bend or drop a USB storage device, or subject it to strong impact.
  - Do not leave a USB storage device in direct sunlight or in locations such as a closed-up automobile.
  - Do not allow a USB storage device to become wet.
  - Do not disassemble or modify your external USB storage device.

- When connecting a USB storage device, position it horizontally with the JM-5's USB port and insert it without using excessive force. The USB port may be damaged if you use excessive force when inserting a USB storage device.
- Do not insert anything other than a USB storage device (e.g., wire, coins, other types of device) into the JM-5's USB port. Doing so will damage the JM-5's USB port.
- Carefully insert the USB storage device all the way into the port, until it is firmly in place.
- Never connect your USB storage device to the JM-5 via a USB hub.

Liability and copyright

- Recording, duplication, distribution, sale, lease, performance, or broadcast of copyrighted material (musical works, visual works, broadcasts, live performances, etc.) belonging to a third party in part or in whole without the permission of the copyright owner is forbidden by law.
- Do not use this unit for purposes that could infringe on a copyright held by a third party. Roland assumes no responsibility whatsoever with regard to any infringements of third-party copyrights arising through your use of this unit.

About supported picture files

- Picture files of the following formats can be loaded by the JM-5:
  - JPG files with a maximum size of 4MB
  - Max. width: 4096 pixels, max. height: 3072 pixels. Using 512 x 384 pixels, or 1024 x 768 pixels, is highly recommended.
  - Do **not** save your pictures as "Progressive" JPG files if you want to use them with the JM-5. Select the "Baseline" format.
  - If pictures of different dimensions are displayed during a slideshow, the final appearance may be disappointing.

About audio files

- Audio files in the following formats can be played back:
  - WAV format
  - 16-bit linear
  - Sampling rate of 44.1kHz
  - Stereo/mono
- mp3 files:
  - MPEG-1 Audio Layer 3
  - Sampling frequency: 8/11.025/12/16/22.05/24/32/44.1/48kHz
  - Bit rate: 32/40/48/56/64/80/96/112/128/160/192/224/256/320kbps, VBR (variable bit rate)

Supported Standard MIDI Files

- Format 0/1, .kar files

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- All product names mentioned in this document are trademarks or registered trademarks of their respective owners.
- MPEG Layer-3 audio compression technology is licensed from Fraunhofer IIS Corporation and THOMSON Multimedia Corporation.
- This product uses certain software of the Independent JPEG group.
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2. Features

Versatile player

The JM-5 can play back audio files (mp3 and WAV) and SMF files from an external USB Memory.

Connect two microphones

The JM-5 is a professional vocal system with two microphone inputs, vocal effects and a video output for displaying the song lyrics and chords on an external screen. It is perfect for karaoke applications in stores, bars, schools, private homes, concert venues and at parties.

Enjoy singing together

The JM-5 can be connected to a TV set, a monitor or a projector and display the lyrics of the selected songs as well as digital photos that to match the atmosphere.

There is no need to buy dedicated "karaoke versions" of the music you wish to perform: the JM-5 contains a "Center Cancel" function that can attenuate the vocal parts of most audio files.

Dedicated effects to enhance your vocal and instrumental performances

The two microphone inputs allow you to perform duets with someone else, and add other audio signals by connecting the source in question to the AUDIO IN socket.

You can also add automatic harmonies simply by singing to a song, add a reverb and echo effect (based on a model of the legendary Roland Space Echo) to your voice and change your voice to produce a robot, animal or "gender transformation" effect.

Playlist function

Thanks to the JM-5's "Playlist" function, you can program set lists for your performances or for background music in restaurants, bars, schools, hotel lobbies, concert halls, etc. This function is also convenient for entertainers who cannot afford to load the songs one after another while on stage.

Cover function for Standard MIDI Files

Simply by selecting one of 30 presets, you can cause a Viennese waltz to be played back by a heavy metal band, etc. Even though the arrangement (rhythm, riffs) does not change, the songs' character can be modified beyond recognition.

Song Makeup Tools for Standard MIDI files

These tools allow you to modify songs in no time without knowing the MIDI commands normally used to perform such changes.

Multi-effects for Standard MIDI Files

With a view to obtaining the highest possible sound quality, the JM-5 contains three dedicated multi-effects processors (MFX A, B, and C) for Standard MIDI Files.

USB-based Standard MIDI File and audio file player

The JM-5 plays Standard MIDI Files (SMF), mp3 and WAV files directly from a connected USB memory.

To get you started, the JM-5 is supplied with a Roland M-UF2G USB memory (with a capacity of 2GB) where you can save your audio recordings and the songs you wish to play back.

USB-based audio recorder

The JM-5 allows you to record your performances as audio data. The resulting WAV files can be played back on the JM-5 itself or transferred to a computer via a USB storage device.

A powerful MIDI module

The JM-5's internal sound source can also be controlled via MIDI (from a MIDI-compatible keyboard instrument, a computer, etc.). Three real-time parts are available that can play different parts simultaneously, using different sounds. There is a second MIDI mode ("Song Parts") in which the is 16-part multitimbral.

...and so much more!

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3. Panel description

Front Panel

① **USB memory port**
Connect the supplied M-UF2G an optional USB memory here.

Note: Roland does not recommend using USB hubs, irrespective of whether they are active or passive. Please connect only one USB storage device to this port.

NOTE
Use USB storage devices sold by Roland. We cannot guarantee operation if any other USB memory is used.

② **BACKING knob**
This knob allows you to set the volume of the songs (audio or MIDI) you play back.

③ **MASTER VOL knob**
Use this knob to set the JM-5's global output volume (all signals transmitted to the OUTPUT sockets). The setting of this knob also determines the volume in the headphones you may connect.

④ **Headphone socket**
This is where you can connect a pair of optional headphones (Roland RH-series).

⑤ **Display**
This display shows information related to your operation and the lyrics of the songs you play back (if they contain lyrics data).

⑥ **USB MEMORY button**
Press this button to call up a list of the files stored on the USB memory connected to the JM-5's USB memory port.

⑦ **MENU button**
This button allows you to open the JM-5's menu page where you can view and select all available functions. Press it together with the [EXIT] button to listen to the JM-5's demo songs.

⑧ **EXIT button**
This button is used to return to a higher menu level. Press and hold it to return to the JM-5's main display page.

⑨ **MIC1 and MIC2 knobs**
The [MIC1] and [MIC2] knobs control the level of the microphone connected to the MIC 1 or MIC 2 jack.

⑩ **SPACE ECHO knob**
Press this button to switch the echo effect for the microphone signals on or off. Press and hold it if you need to change the echo effect's settings. Pressing this button together with the [VOCAL EFFECT] button will activate TALK mode (page 25).

⑪ **VOCAL EFFECT button**
The [VOCAL EFFECT] button activates the vocal effect. Press and hold it to select the desired voice transformation or harmony effect (page 25). Pressing this button together with the [SPACE ECHO] button will activate TALK mode (page 25).

⑫ **AMBIENCE knob**
This knob controls the level of the reverb effect (called "Ambience" on the JM-5) that is added to the [MIC1] and [MIC2] signals.

⑬ **CURSOR/VALUE dial**
This dial can be used to move the cursor in the display, to select parameters and to set values. By pressing it, you can select items in the display (SELECT).

⑭ **[■] button (Stop)**
Press this button to stop playback of the currently selected song and to return to the beginning.

⑮ **[▶/II] button (Play/Pause)**
Pressing this button starts or temporarily halts playback of the currently selected song.

⑯ **MELODY MUTE button**
This button lets you mute the melody part of the selected Standard MIDI File, or attenuate the vocal part at the center of an audio file (WAV or mp3), allowing you to sing or play that part yourself.

Pressing and holding this button opens the "Melody Mute" page.

⑰ **[◀◀] (Rewind) and [▶▶] (Fast-Forward) buttons**
These buttons allow you to rewind or fast-forward within the currently selected song.

⑱ **REC button**
This button allows you to activate audio recording on the JM-5.

⑲ **CONTROL KEY button**
This button selects the JM-5's transpose function whose setting applies to MIDI and audio files as well as the signals received via the AUDIO IN socket. If the [KEY] button doesn't light, the song (audio or MIDI) and audio input signals use their original pitch.

⑳ **CONTROL TEMPO button**
Press this button to select the "Tempo" function and to change a related setting.

㉑ **PLAYLIST button**
This button calls up the "Playlist" function (page 36).

㉒ **NEXT button**
This button selects the next song in the playlist and starts a fade-out of the song that is currently playing while the new song you selected is gradually faded in. This also works for songs on the connected USB memory (irrespective of whether or not you select them by hand).

㉓ **FINDER button**
Press this button to select the JM-5's convenient "Finder" function that allows you to search for a song or picture whose location you don't remember.

Rear panel

① **POWER switch**
Turns the power on/off (page 17).

② **DC IN socket**
Connect the supplied AC adapter PSB-1U here (page 14).

③ **MIC2 socket**
This is a combo socket to which you can connect either a balanced XLR or an unbalanced 1/4" phone jack.

④ **MIC1 socket**
This is a combo socket to which you can connect either a balanced XLR or a balanced/unbalanced 1/4" phone jack, depending on the cable that is connected to your microphone. This is the main microphone input whose signal can be processed with the JM-5's harmony function.

The JM-5 can provide phantom power to this socket, allowing you to use a condenser microphone. See (page 27) for details about phantom power.

NOTE

This instrument is equipped with balanced (XLR and 1/4" phone) type jacks. Wiring diagrams for these jacks are shown below. Make connections after first checking the wiring diagrams of other equipment you intend to connect.

⑤ **INPUT (STEREO) socket**
This socket allows you to connect the audio outputs of an external signal source (CD/mp3 player, synthesizer, etc.). This is a stereo TRS socket to which you

can connect a cable with a stereo 1/8" plug at one end (this ones needs to be connected to the JM-5) and two 1/4" or RCA mono plugs, or a 1/8" stereo plug that connect(s) to the external audio source.

NOTE

The audio in level can be set using the "Audio In Level" function (page 57).

⑥ **AUDIO OUTPUT R & L/MONO sockets**

These sockets transmit all audio signals the JM-5 generates as well as the signals you input to the JM-5.

NOTE

If you can/want to use only one channel on your external amplifier, connect the L/MONO socket to its input. For optimum sound quality, we recommend working in stereo, though.

⑦ **VIDEO OUTPUT socket**

Connect this socket to the appropriate input of your TV or external display.

NOTE

The signal format (PAL or NTSC) is selectable (page 56).

⑧ **MIDI IN/OUT socket**

This socket allows you to either transmit (OUT) or receive (IN) MIDI messages to/from an external MIDI device (page 62). It can also transmit V-LINK messages (page 72).

NOTE

See "MIDI Direction" on p. 58 for how to select the function of this socket.

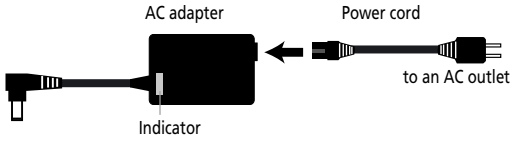
⑨ **COMPUTER port**

Use a USB cable to connect the JM-5 to your computer via this port (page 69). This port only transmits and receives MIDI messages.

4. Before you start using the JM-5

Connecting the AC adaptor

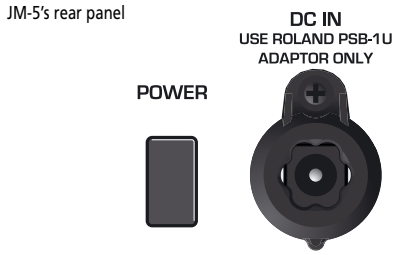
1. **Turn the [MASTER VOL] knob all the way to the left to minimize the volume.**
2. **Connect the included power cord to the AC adapter.**
   The indicator will light once you plug the AC adaptor into a wall outlet.



   Place the AC adapter so the side with the indicator (see illustration) faces upwards and the side with textual information faces downwards.

NOTE
Depending on your region, the included power cord may differ from the one shown above.

3. **Connect the AC adaptor to the JM-5's DC IN jack.**



4. **Plug the power cord into a power outlet.**
   Note: Be sure to use only the AC adapter supplied with the unit (PSB-1U). Also, make sure the line voltage at the installation matches the input voltage specified on the AC adapter's body. Other AC adapters may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock.

NOTE
If you won't be using the JM-5 for an extended period of time, disconnect the power cord from the electrical outlet.

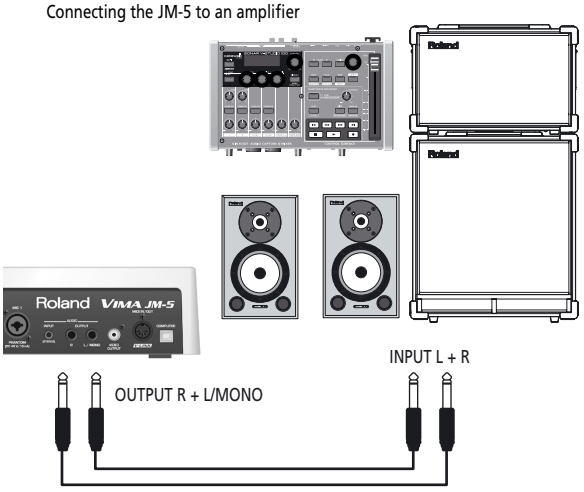
Connecting the JM-5 to an amplifier, mixer, etc.

To use the JM-5, you need to connect it to a mixer or an amplification system.

NOTE
To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.

1. **Turn the [MASTER VOL] knob all the way to the left to minimize the volume.**
2. **Switch off all devices.**
3. **Connect the JM-5's OUTPUT jacks to the inputs of your external device.**
   Connect the outputs of an external signal source to the JM-5's INPUT (STEREO) socket.

Connecting the JM-5 to an amplifier

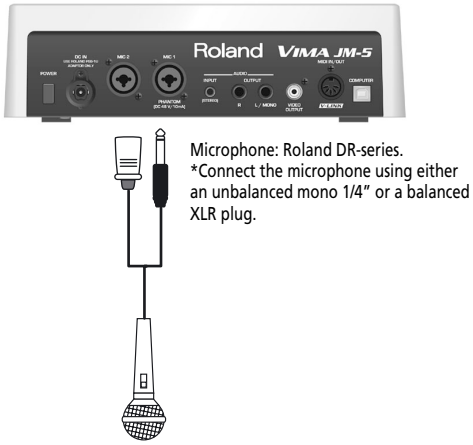


For the connection to an amplifier, please choose unbalanced (mono) cables with 1/4" plugs at one end (for the JM-5). The connectors at the other end need to match the input sockets of the device to which you are connecting the JM-5.

NOTE
When connection cables with resistors are used, the volume level of equipment connected to the audio inputs may be low. If this happens, use connection cables that do not contain resistors.

Connecting a microphone

Connect your microphone to the MIC 1 or MIC 2 socket.


Roland VIMA JM-5
Microphone: Roland DR-series.
*Connect the microphone using either an unbalanced mono 1/4" or a balanced XLR plug.

If you are using only one microphone, choose the MIC 1 socket. This will allow you to take advantage of the JM-5's voice effects and harmony function.

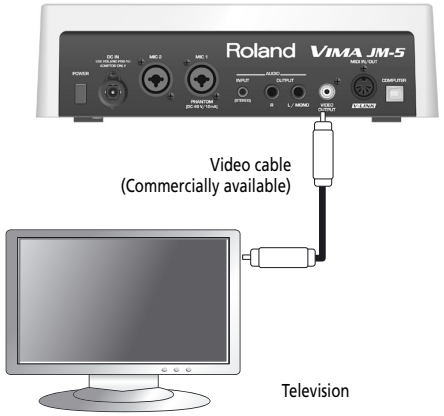
NOTE

You can connect a condenser microphone to the MIC 1 socket, in which case you need to switch on phantom power (page 27).

■ Cautions when using a microphone

- Lower the volume before you connect a microphone to the JM-5. If the volume is raised when you connect a microphone, noise may be output from the connected speakers.
- Howling could be produced depending on the location of microphones relative to speakers of your amplification system. This can be remedied by:
  (1) Changing the orientation of the microphones.
  (2) Relocating the microphone(s) at a greater distance from speakers.
  (3) Lowering volume levels.

Connecting a television set



NOTE

Before you make connections to other devices, you must turn down the volume of all devices and turn off their power to prevent malfunctions or damage to your speakers.

1. **Switch off the JM-5 and the television set you'll be connecting.**
2. **Connect the JM-5 to your television set.**
   Use a video cable (commercially available) to connect the JM-5's VIDEO OUTPUT jack to the television set.
3. **Switch on the JM-5 (see p. 17).**
4. **Switch on your television set.**
5. **(As necessary) Specify the television output format (see p. 56).**
6. **Specify the aspect ratio for your television set.**
   The aspect ratio is the proportional relationship between the width and height of the screen.

Connecting an external audio device

You can also connect an external audio device to the JM-5's INPUT (STEREO) socket.

Roland VIMA JM-5
This connection requires a special cable: 1/8" stereo mini phone plug → 1/8" stereo mini phone plug
Headphone output
Portable audio player

The "Audio In Level" parameter (see p. 57) allows you to set the input level.

NOTE

Signals received via the INPUT (STEREO) socket can also be processed by the "Center Cancel" function (see "Audio In Center Canc" on p. 57) and transposed (see "Audio In Transpose" on p. 57).

Listening through headphones

You can use headphones to enjoy the JM-5 without disturbing those around you, such as at night.

1. **Plug the headphones into the headphone (🎧) socket located at the JM-5's front.**
   If you don't want to disturb others, switch off the external amplification system, because the JM-5's OUTPUT sockets remain active even when you connect headphones.
2. **Use the JM-5's [MASTER VOL] knob to adjust the headphone volume.**

■ Cautions when using headphones

- To prevent damage to the cord's internal conductors, avoid rough handling. When using headphones, mainly try to handle either the plug or the headset.
- Your headphones may be damaged if the volume of a device is already turned up when you plug them in. Minimize the volume before you plug in the headphones.
- Excessive input will not only damage your hearing, but may also strain the headphones. Please enjoy music at a reasonable volume.
- Use headphones fitted with a stereo 1/8" phone plug.

Attaching the JM-5 to a stand

By using the separately sold PDS-10, you can attach the JM-5 to a stand as shown in the illustration below.

NOTE

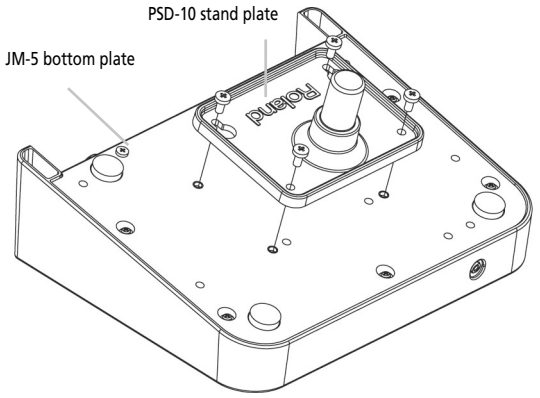
Use only the screws (M5x8) supplied with the JM-5 to attach the unit to the Roland PDS-10 stand (sold separately). Other screws or other usages of the screw holes may damage the JM-5.

NOTE

Never insert the 4 screws supplied with the JM-5 without attaching the JM-5 to the PDS-10 stand.

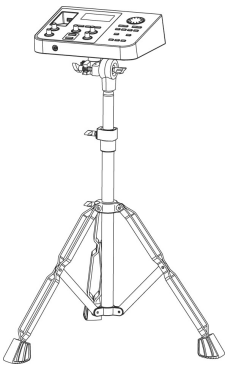
NOTE

When using the PDS-10, extend the legs to their maximum spread. Do not allow the overall height including the JM-5 to exceed 1 meter.



Notes:
Be sure to use the screws supplied with the JM-5.

The assembly (JM-5 and PDS-10) should look as shown to the right.



- See the PDS-10's owner's manual for details about how to attach the JM-5 to it.
- For this procedure, turn the JM-5 upside-down, and place a bunch of newspapers or magazines under the four corners or at both ends to prevent damage to the buttons and controls.
  Also, you should try to orient the JM-5 so no buttons or controls get damaged.

NOTE

When turning the JM-5 upside-down, handle with care to avoid dropping it, or allowing it to fall or tip over.

Turning the power on/off

Once the connections have been completed, turn on the power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

NOTE

Never remove the USB memory while playback or recording is running or while data are being read from, or written to, an external USB memory.

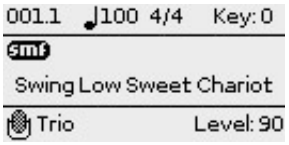
Turning the power on

1. **Switch off the external amplification system.**
2. **Turn the [MASTER VOL] knob all the way to the left to minimize the volume.**

3. **Press and hold the [POWER] switch until the "Starting Up..." message appears in the display.**

The power will turn on, an opening message will appear in the JM-5's screen, and then the main page will appear.

After a brief interval, the JM-5 will be ready to produce sound.



NOTE

This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

4. **Switch on your amplification system or connect a pair of headphones (see p. 16).**
5. **Use the [MASTER VOL] knob to adjust the volume.**

Turning the power off

1. **Turn the [MASTER VOL] knob all the way to the left to minimize the volume.**

NOTE

Never switch off the JM-5 while playback or recording is running or while data are being read from, or written to, an external USB memory.

2. **Switch off your external amplification system.**
3. **Press the JM-5's [POWER] switch.**
The display will go dark and the power will turn off.

NOTE

If you need to turn off the power completely, first turn off the [POWER] switch, then unplug the power cord from the power outlet. Refer to "Connecting the AC adaptor" on p. 14.

Demo of the JM-5

Your JM-5 contains a demo that introduces all of its highlights. It might be a good idea to try it out now. The demo is self-explanatory, so we'll just show you how to start and stop it.

NOTE

You will need to connect an external display to take advantage of the JM-5's demo function. See "Connecting a television set" on p. 15.

1. **Simultaneously press the [MENU] and [EXIT] buttons.**

2. **Enjoy the audio-visual demo.**
3. **Press the [EXIT] button to leave the demo function.**

NOTE

All rights reserved. Unauthorized use of this material for purposes other than private, personal enjoyment is a violation of applicable laws.

NOTE

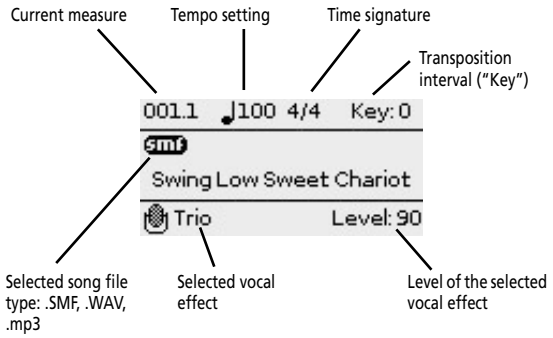
No data for the music that is played back will be output from USB-MIDI.

5. Basic operation of the JM-5

About the display and cursor operation

This section introduces the information that appears on the main page in the JM-5's display and how to navigate the menu.

Main page



Moving between windows

Here is how to navigate the menu to select the setting you want to change.

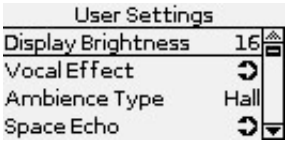
1. **Press [MENU] button.**

The display changes to:

This page allows you to select the function group that contains the setting you want to change (indications followed by an arrow mean that you can select other display pages).

2. **Rotate the [CURSOR/VALUE] dial to select the entry of the desired function group.**
   For this example, we will select "User Settings".
3. **Press the [CURSOR/VALUE] dial ("PUSH") to go to the "User Settings" function group.**

The display changes to:



On this display page, only one setting ("Display Brightness") can be changed directly. Some of the remaining entries are followed by an arrow, meaning that they provide access to additional display pages.

4. **Try to select other "Menu" functions by proceeding as follows:**

(a) Press the [EXIT] button once to return to the "Menu" page.

(b) Rotate the [CURSOR/VALUE] dial to select an entry, then press the dial to go to the corresponding function group or setting.

(c) Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.

6. Playing back songs

The JM-5 plays back songs stored on an external USB storage device (it doesn't contain a hard disk). Be sure to prepare one with the songs you intend to use. You can use your computer to prepare the USB storage device (a USB memory). We recommend, however, to format the USB storage device with the JM-5 rather than your computer. See page 70 for how to format your storage device. In addition, the JM-5's demo songs can be played back if you select the corresponding playlist.

On the JM-5, mp3, WAV and SMF files are considered "songs". Be aware, however, that mp3 and WAV files are audio data (the ones you can burn onto a CD and play back with almost any CD player). Standard MIDI Files, on the other hand, contain MIDI data, i.e. instructions for a tone generator. This is important to remember, because it explains why some functions are only available for Standard MIDI Files, while others only work with audio files (WAV or mp3).

NOTE

See page 21 for the supported song files.

NOTE

Never remove the USB memory while playback or recording is running or while data are being read from, or written to, an external USB memory.

Playing back songs on a USB storage device

Here's how you can listen to songs that are saved on a USB storage device (sold separately).

1. **Connect the JM-5 to an audio system (or connect a pair of headphones) and switch it on (see p. 17).**
2. **Connect the USB memory containing the song you want to play back to the USB memory port on the front panel.**

3. **If necessary, press the [USB MEMORY] button.**

The display changes to:

(This is only an example of what may be displayed after performing step (3).)

NOTE

When you first connect a USB memory to the JM-5, this page appears automatically. In that case, you can skip step (3).

4. **Select the file you want to play back by first rotating the [CURSOR/VALUE] dial and then pressing it to confirm your selection.**

The [USB MEMORY] button's indicator lights.

5. **Press the [▶/II] button to start playback.**

6. **Press [▶/II] again to temporarily pause playback. Press it yet again to resume playback.**
7. **Press the [■] button to stop playback and return to the beginning of the song.**

8. **Use the [◀◀] and [▶▶] buttons to rewind or fast-forward.**
9. **Press and hold the [EXIT] button to return to the main page where you will find all important information regarding the selected song.**
See also "Main page" on p. 19.

If you can't see the song (or folder) you need

■ **Scrolling up or down**

If the USB storage device contains more files and/or folders than can be displayed at once, use the dial to move the list up or down.

■ **If the file is located inside a folder**

If the file you need is located inside a folder, select the folder in question by rotating the [CURSOR/VALUE] dial and then pressing it to open that folder.

Next, select the file in the usual way (by rotating and pressing the [CURSOR/VALUE] dial).

If you open a folder by accident, press the [EXIT] button to return to the previous level.

Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.

Supported song files

The JM-5 can play back mp3 and WAV files (audio) and Standard MIDI Files (SMF). The main difference between audio and SMF files is that SMF files do not contain vocal parts and rely on the JM-5's internal tone generator for the sounds you hear.

Note: Audio files in the AIFF format are not supported.

File type	Explanation
SMF	Standard MIDI Files, formats 0 and 1 .kar files
mp3 mp3+CDG	• MPEG-1 Audio Layer 3 • Sampling frequency: 44.1kHz • Bit rate: 32/40/48/56/64/80/96/112/128/160/192/224/256/320kbps*, VBR (variable bit rate) (*) 320kbps is not available for mp3+CDG files
WAV	• 16-bit linear • Sampling frequency: 44.1kHz • Stereo/mono
VIMA TUNES (CD-ROMs produced for VIMA)	After connecting and optional CD-ROM drive to the JM-5's EXTERNAL MEMORY port, you can play back commercially available CD-ROMs made for the VIMA (VIMA TUNES). While a song plays, you can view a slide show suitable for the character of that song on an external display or a television.
Music CDs	If you connect an optional USB CD-ROM drive to the JM-5's external memory port, you can play back standard music CDs.

7. Singing and playing along to a song

The JM-5 allows you to connect two microphones. It also provides several functions to process both your "live" signal sources and the songs you play back.

Connection and basic settings

1. **Set the [MIC 1] and/or [MIC 2] knob to the minimum value.**

You should do so each time you need to connect or disconnect a microphone. Furthermore, only increase the setting if somebody actually wants to sing, and then set it back to the minimum value.

2. **Connect a microphone (see p. 15).**

Socket	Explanation
MIC 1	Is intended for the main microphone. The signal received via this socket can be processed with the JM-5's harmony effect (see p. 25). This socket can provide phantom power for a condenser microphone (see p. 27).
MIC 2	Can be used for a second microphone for karaoke duets. The harmony effect is not available for the second microphone.

3. **Sing or talk into the microphone and gradually turn the [MIC 1] or [MIC 2] knob towards the right.**
   Set the knob in such a way that you can easily hear your voice or instrument. If the sound distorts, you need to turn the knob a little towards the left again.

NOTE
If you don't hear anything, check the setting of the [MASTER VOL] knob.

4. **Choose the song you want to play back (page 20).**
5. **Press the [►/II] button to start playback.**
6. **Start singing or playing at the right moment.**

7. **If the song is too loud or too soft, you can change the balance between the accompaniment and your singing:**
   - Use the [BACKING] knob to increase or decrease the song level.

If doing so would make the JM-5's overall level way too soft, turn the [MIC 1] or [MIC 2] knob towards the right. (Be careful to avoid distorting the microphone signal, though.)

8. **Press the [■] button to stop playback and return to the beginning of the song.**

Adding effects to the microphone signals

Adding ambience to your vocal performance

The JM-5 provides a reverb effect for the signals received via the MIC 1 and MIC 2 sockets.

1. **Sing or play while setting the desired reverb amount with the [AMBIENCE] knob.**

The setting of this knob applies to both microphone signals (MIC 1 and 2).

Turn the knob towards the right to increase the amount of Ambience effect, and to the left to decrease the amount.

■ Selecting a different Ambience effect

To select a different kind of Ambience effect, proceed as follows.

NOTE

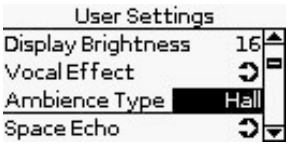
The setting you make here applies to both the MIC 1 and the MIC 2 sockets.

1. **Press [MENU] button.**

The display changes to:

2. **Rotate the [CURSOR/VALUE] dial to select the "User Settings" entry, then press the [CURSOR/VALUE] dial.**

3. **Again rotate the [CURSOR/VALUE] dial to select "Ambience Type" and press it again.**



4. **Rotate the [CURSOR/VALUE] dial to select the desired macro setting.**

The following Ambience types are available:

Setting	Meaning
Hall	This type simulates the reverb characteristics of a room or a concert hall.
Studio	A brighter, more direct, reverb effect than "Hall".
Plate	Digital simulation of a metal plate that is sometimes used for creating reverb effects.

5. **Turn the [AMBIENCE] knob towards the right if you**

can't hear the effect.

6. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**

Adding echo to your vocal performance

The JM-5 provides a "Space Echo" effect that can be used to process the signals received via the MIC 1 and MIC 2 sockets. Press the [SPACE ECHO] button to switch this effect on or off.

■ Changing the settings of the Space Echo effect

The Roland SPACE ECHO RE-201 tape echo that is simulated by the Space Echo effect debuted in 1974. Even today, with the machine no longer in production, it remains a world-famous device that is still widely acclaimed.

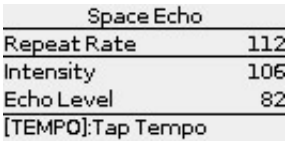
The sound of the RE-201, especially the pleasing chorus effect created by the subtle wavering from the movement of the tape—and the characteristic compressed sound that results from magnetic saturation of the tape—continues to intrigue numerous musicians.

To change the Space Echo effect settings, proceed as follows.

NOTE

The settings you make here apply to both the MIC 1 and the MIC 2 sockets.

1. **Press [MENU] button.**
2. **Rotate the [CURSOR/VALUE] dial to select the "User Settings" entry, then press the dial.**
3. **Again rotate the [CURSOR/VALUE] dial to select "Space Echo" and press it again.**



NOTE

You can also select this page by pressing and holding the [SPACE ECHO] button.

4. **Rotate the [CURSOR/VALUE] dial to select one of the available parameters.**
5. **Press the [CURSOR/VALUE] dial to confirm your selection.**
6. **Rotate the [CURSOR/VALUE] dial to change the setting of the parameter you selected:**

Parameter	Setting range	Explanation
Repeat Rate	0~127	This adjusts the intervals between echoes. The spacing between the echoes is reduced as the value is decreased. Changing this setting while a signal is being processed will temporarily change the pitch of the echoes.
Intensity	0 ~ 127	This adjusts the volume of the echo repeat sound (the feedback volume). The volume of the feedback increases as the value is increased. With certain sounds and settings, you can also produce oscillation.
Echo Level	0~127	Adjusts the volume of the echo. The volume of the echo sounds increases as the value is raised.

7. **Press the [EXIT] button to return to a higher level, and then repeat steps (4)~(6) to set the other two parameters.**
8. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**

■ Setting 'Repeat Rate' using the 'Tap Tempo' function

While the "Space Echo" page is displayed, the [TEMPO] button's indicator flashes to indicate the "Repeat Rate" setting. To quickly synchronize the echo pattern to the current song tempo, simply press the [TEMPO] button at least twice in time with the song.

Press repeatedly in time with the song tempo

Note: Changing the "Repeat Rate" setting using this "Tap Tempo" function does not produce pitch changes of the repeated signals.

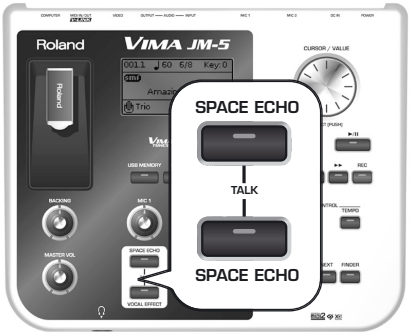
NOTE

While the "Space Echo" page is displayed, the [TEMPO] button has no effect on the song tempo—it only affects the "Repeat Rate" setting.

Talk

The "Talk" function is intended for announcements you wish to make in between songs. Switching it on will cause all effects available for the microphone signals (including the harmony effect) to be bypassed and simultaneously lower the song's playback volume by approximately 40%.

1. **Simultaneously press the [SPACE ECHO] and [VOCAL EFFECT] buttons.**



The indicators of both buttons start flashing to signal that the "Talk" function is active. Also, the "Talk" message appears in the bottom line of the main page:

2. **To switch off the "Talk" function an reinstate the vocal effect settings, again simultaneously press the [SPACE ECHO] and [VOCAL EFFECT] buttons.**

Harmony and vocal effects

The JM-5 provides a dedicated effect section that allows you to add harmonies to your singing and/or to change the character of your voice. The following is only available for the microphone connected to the MIC 1 socket.

Changing your voice/adding harmonies

When you sing along to an SMF song or a song on a "VIMA TUNES" CD-ROM, you can use the harmony function, which automatically adds harmony voices to your singing. Even during playback of an mp3 or WAV file, you can add one or several voices to your own, but they cannot be harmonized automatically: they use the same pitch or a pitch one octave above/below your own voice, which can still sound impressive.

■ **Preparations**

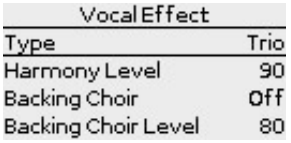
1. **Connect your microphone to the MIC 1 input on the JM-5's rear panel.**
2. **Press and hold the [EXIT] button until it stops flashing to return to the main page (if necessary).**
3. **Switch on the [VOCAL EFFECT] button and sing or talk into the microphone while performing the following steps.**

4. **Press [MENU] and use the [CURSOR/VALUE] dial to select "User Settings" → "Vocal Effect".**

NOTE

Remember to press the [CURSOR/VALUE] dial to confirm your selections.

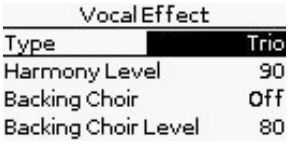
The display changes to:



NOTE

You can also select this page by pressing and holding the [VOCAL EFFECT] button.

5. **Rotate the [CURSOR/VALUE] dial to select the "Type" parameter and press the dial.**
The display changes to:



6. **Rotate the [CURSOR/VALUE] dial to choose one of the following settings:**

Setting	Explanation
Duet*	One harmony voice will be added to your singing. If you selected an audio file, the added voice will be once octave below your own voice.

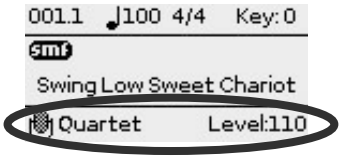
Setting	Explanation
Trio*	Two harmony voices will be added to your singing: one below and one above your own voice. If you selected an audio file, one added voice will have the same pitch as your own, and the other will be one octave higher.
Trio2*	Two harmony voices will be added to your singing: both will be above your own voice. If you selected an audio file, one voice will be one octave below, and the other one octave above your own voice.
Quartet*	Three harmony voices will be added to your singing. If you selected an audio file, one added voice will be one octave below, and another one octave above your own voice. The third voice will use the same pitch as you.
Kids	Your voice will be given a child-like character.
Bear	Your voice will be given a character suggestive of a large animal.
Robot	Your voice will be given a robot-like character.
Duck	Your voice will be given a duck-like character.
Alien	Your voice will be given a character suggestive of a space alien.
Computer	Your voice will be given a computer-like character.
Female	A male voice will be given the character of a female voice.
Male	A female voice will be given the character of a male voice.
Pitch Correct	The pitch of your voice will be corrected to match the melody of the SMF song. **NOTE** If you select this setting, you won't hear the vocal from the microphone unless the song is playing.
Music File*	The notes you sing (or say) use the pitches of the notes (or chords) on track 5 of the selected Standard MIDI File. **NOTE** You can also specify another track/MIDI channel for this function (see "Music File Channel" on p. 57).
Keyboard	Connect an external electronic instrument to the JM-5's MIDI IN/OUT socket and set its "MIDI Direction" function to "IN" (see p. 58). The notes you play will control the harmony voices that are added to your singing. The external instrument must transmit on MIDI channel 16.

Note: Only the options marked with an "*" generate harmonies.

NOTE

The voicing of the first four settings can be specified with the "B. Choir" parameter (see below).

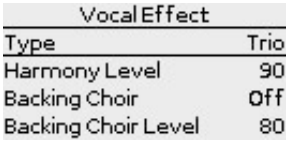
7. **Press the [CURSOR/VALUE] dial, rotate it to select the "Harmony Level" parameter on this page, then press the dial again to confirm your selection.**
   This parameter allows you to set the volume of the effect that is applied to your voice.
8. **Rotate the dial to select the desired level setting.**
9. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**
   The new settings of the two "Vocal Effect" parameters are displayed in the bottom line:



■ **Choosing the harmony voicing (Backing Choir)**

For the "Duet", "Trio", "Trio 2" or "Quartet" setting, you can also specify the voicing (i.e. how many of the available harmony voices are above or below your own voice).

1. **Press [MENU] and use the [CURSOR/VALUE] dial to select "User Settings" → "Vocal Effect".**
   The display changes to:

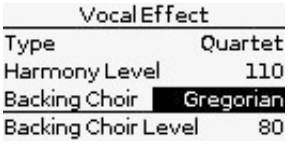


NOTE

You can also select this page by pressing and holding the [VOCAL EFFECT] button.

2. **Rotate the [CURSOR/VALUE] dial to select the "Backing Choir" parameter and press the dial.**

The display changes to:



3. **Rotate the dial to choose one of the following settings:**

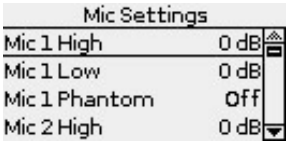
Setting	Explanation
Off	There will be no backing choir.
Gregorian	The harmonies are similar to the famous singing technique used by European monks.
Gospel	The harmony voicing is reminiscent of a gospel choir.
Classical	The harmony voicing sounds like a choir in classical music. (This also works for pop music.)
Boys	The harmony voicing sounds like a boys' choir.

4. **Press the [CURSOR/VALUE] dial, rotate it to select the "Backing Choir Level" parameter, then press the dial to confirm your selection.**
5. **Rotate the dial to select the desired level setting.**
6. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**
   The "Backing Choir" function is now active and can be switched on/off with the [VOCAL EFFECT] button. (Doing so also activates the vocal effect).
7. **Start playback of a song and sing into the microphone connected to the MIC 1 socket to audition the effect.**

Setting the microphone equalizers and phantom power

The JM-5 provides two equalizers (tone controls) you can set for the two MIC inputs separately. If you connect a condenser microphone to MIC 1, you can also activate this socket's phantom power. (The MIC 2 socket provides no phantom power.)

1. **Press [MENU] and use the [CURSOR/VALUE] dial to select "User Settings" → "Mic Settings".**
   The display changes to:



   The "MIC 1" parameters apply to the microphone connected to the MIC 1 socket. The "MIC 2" section applies to the microphone connected to the MIC 2 socket.
2. **Use the [CURSOR/VALUE] dial to select "Mic 1 High", then press the dial.**
3. **Rotate the dial to increase (+1~+15) or decrease (–1~–15) the level of the high frequencies.**
4. **Press the [CURSOR/VALUE] dial again to confirm your setting, then rotate it to select the "Mic 1 Low" parameter.**
5. **Press the dial, than rotate it to increase (+1~+15) or decrease (–1~–15) the level of the low frequencies.**
6. **Press the [CURSOR/VALUE] dial again to confirm your setting, then rotate it to select the "Mic 1 Phantom" parameter.**

7. **Press the dial, then rotate it to select "On" (phantom power active) or "Off (phantom power off).**
   IMPORTANT REMARK: Never connect or disconnect a condenser microphone while the "Mic 1 Phantom" parameter is set to "On". We also recommend setting the [MASTER VOL] knob to the minimum position before connecting or disconnecting microphones. The JM-5's phantom power supply: +48V DC, 10mA

NOTE

Always turn the phantom power off when connecting any device other than condenser microphones that require phantom power. You risk causing damage if you mistakenly supply phantom power to dynamic microphones, audio playback devices, or other devices that don't require such power. Be sure to check the specifications of any microphone you intend to use by referring to the manual that came with it.

NOTE

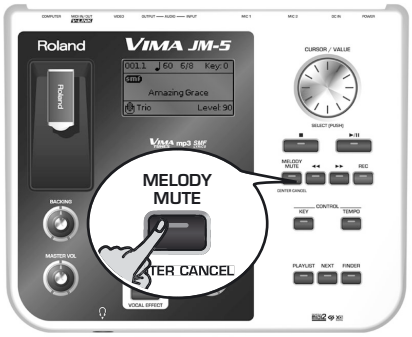
The "Mic 1 Phantom" parameter's "On" setting can be stored in the JM-5's "User Settings" memory (see p. 58). If you do so, a "Phantom Power On" message will warn you that this parameter is on each time you switch on the JM-5.

8. **Press the [CURSOR/VALUE] dial to return to the "Mic Settings" list, then repeat steps (2)~(5) to set the "Mic 2" equalizer.**
9. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**

Using 'Melody Mute' and 'Center Cancel'

The JM-5 can play back audio (WAV or mp3) files and Standard MIDI Files. You can minimize the vocal sounds of an audio file and sing the vocal part. This is a convenient way to enjoy karaoke.
Even though Standard MIDI Files contains no vocal parts and control the JM-5's sound generator during playback, you can nevertheless temporarily mute the instrumental melody.

1. **Press the [MELODY MUTE] (CENTER CANCEL) button (its indicator lights).**



The "Melody Mute" or "Center Cancel" function will turn on.

NOTE

For some audio songs, the vocal sound may not be eliminated completely.

2. **Press the [MELODY MUTE] (CENTER CANCEL) button again to make its indicator go dark.**

This switches the "Melody Mute" or "Center Cancel" function back off.

When you play back a song, the following will occur depending on the file type:

File type	Function	Explanation
SMF	Melody Mute	One part of the selected Standard MIDI File is muted (Default: channel 4, i.e. the melody).
Audio (mp3, WAV)	Center Cancel	The sound of the melody or vocal will be minimized.

Selecting the track(s) to mute for SMF songs

The following procedure allows you to specify the track of the selected Standard MIDI File that should be muted when you switch on the [MELODY MUTE] button.

NOTE

This function is not available for audio files.

1. **Select an SMF song.**
2. **Press [MENU] and use the [CURSOR/VALUE] dial to select "User Settings" → "Melody Mute".**
The display changes to:

NOTE

You can also press and hold the [MELODY MUTE] (CENTER CANCEL) button to select this page.

3. **Rotate the dial to move the cursor to the track you want to switch off.**
4. **Press the dial to highlight the corresponding parameter in the bottom row.**
5. **Rotate the dial to change the setting.**
The possibilities are:

Display indication	
<no indication>	The associated track is played back.
M	The associated track is no longer played back (muted).

6. **If you want to save your selection of the track(s) that should be muted for any SMF file you play back, proceed as follows:**
Press [MENU] and use the [CURSOR/VALUE] dial to select "User Settings" → "Save User Settings". Next, confirm the question that is displayed (by selecting "Yes"). See also p. 58.

NOTE

Remember to press the [CURSOR/VALUE] dial to confirm your selections.

8. Other important functions

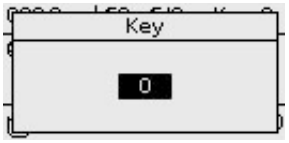
Singing or playing in a different key (Key)

The "Key" function lets you play back a song in a different key. This is convenient when you're singing or playing along with a song that is too high or too low for your voice, or for songs that you usually play in a different key.

You can control the key of WAV, mp3 and SMF music files.

1. **Press the [KEY] button.**

The display changes to:



2. **Use the dial to edit the "Key" value.**
   This display page disappears after a few seconds.
   If "Key" is set to a value other than 0, the [KEY] button's indicator lights. This parameter can be set in a range of –6~5 (semitone steps).
3. **To return to original "Key" setting, press an hold the [KEY] button.**
   The "Key" setting will return to "0" (original pitch of the song).

NOTE

By default, this setting also affects the pitch of signals received via the INPUT (STEREO) socket. Set "Audio In Transpose" on p. 57 to "Off" to prevent pitch changes of signals received via this socket.

Changing the tempo (playback speed) of a song

If a song is too fast for you to play or sing along, you can slow it down to a more comfortable tempo. Changing the tempo (playback speed) does not affect the pitch. You can also change the tempo while a song is playing.

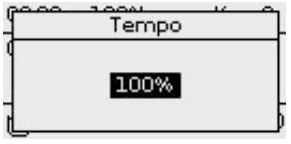
Here's how to change the playback speed of a Standard MIDI File or audio song.

1. **Press the [TEMPO] button.**

The display now shows the "Tempo" page. The setting ranges and units depend on the type of song file that is currently selected:

- For SMF files: ♩= 20~250BPM:

- For audio files (WAV or mp3): 75%~125% (where "100%" represents to the original playback speed).



This display page disappears after a few seconds.

2. **Use the [CURSOR/VALUE] dial to edit the "Tempo" value.**

NOTE

On pages where the tempo value is not displayed, you can press the [TEMPO] button to display a popup window that shows the current tempo.

3. **To return to the original tempo of the song, press and hold the [TEMPO] button.**

Recording your performance as audio data

Your JM-5 allows you to record everything it can transmit to its outputs, i.e. song playback, your playing, your singing, the harmonies created by the harmony effect (see p. 25) and any audio signal transmitted to the JM-5.

Feel free to connect the master outputs of an external mixing console to the JM-5's INPUT (STEREO) socket if you want to record your band or the signals of additional synthesizers, pianos, drum machines, etc., as well.

The resulting audio file is stored in the WAV format (not mp3), which allows you to burn your recordings onto a CD using your computer.

NOTE

You will need a USB storage device to record your performance. Consider using the Roland USB Memory M-UF2G (with a capacity of 2GB) that is supplied with the JM-5. We cannot guarantee operation if any other USB memory is used.

NOTE

Never remove the USB memory while playback or recording is running or while data are being read from, or written to, an external USB memory.

Recording

NOTE

The following is based on the assumption that the "REC Audio Sync" parameter (page 57) is active.

1. **Connect the USB storage device to which you wish to save the audio data.**
2. **Prepare everything you want to record:**
   - Select the song file you want to use as accompaniment
   - Connect the microphone(s)
   - Set the levels and effects, etc.
3. **Make the following settings (recommended):**

Knob/parameter	Details
BACKING	Set it to "11 o'clock"
MIC1 (or MIC2)	Set it to "11 o'clock"
Harmony Level	Set it to "90"

The "11 o'clock" position corresponds to the following setting:

4. **Start playback of the song you want to use as backing and sing into the microphone.**
5. **Set the desired balance between the song and the microphone signals using the [BACKING], [MIC1], and [MIC2] knobs (and possibly also the [AMBIENCE] knob).**
6. **Press the [■] button.**

7. **Press the [REC] button (its indicator flashes).**

NOTE

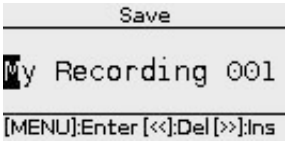
If you pressed [REC] by accident, simply press the [■] button to leave record standby mode.

8. **Press the [▶/II] button.**

The indicators of the [REC] and [▶/II] buttons light and the JM-5 starts playing back the selected song and recording. Everything you say, sing (into a connected microphone) or play (on a connected instrument) is recorded.

9. **At the end of the song, press the [REC] or [■] button to stop recording.**
   Song playback and recording stop.

The following message appears:



You can now...

(a) Save the song under a new name.
→ "Saving your recording as an audio file"

(b) Save the song under the name suggested by the JM-5 ("My recording001").
→Press the [MENU] button. After a few seconds, the display will return to the main page. In this case, your audio file is saved in the "My Recordings" folder.

(c) Decide to discard your recording, because you are unhappy with it.
→ Press the [EXIT] button. The display changes to:

→ Rotate the [CURSOR/VALUE] dial to select "YES", then press the dial to erase your recording.

NOTE

Selecting "NO" here takes you back to the state where you can choose between options (a) and (b).

Listening to your recording

If you selected (a) or (b) above, you can listen to your recorded performance:

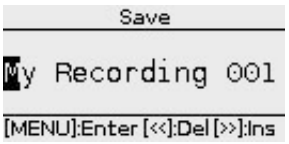
1. **Press the [▶/II] button to start playback of your recording.**
   If your recording seems too loud or too soft, you may want to change the setting of the "Rec Audio Level" parameter ([MENU] button → "User Settings"→ "Utility"→ "REC Audio Level", p. 57).

NOTE

The JM-5 provides a second recording mode that allows you to start recording before the song you selected ([MENU] button → "User Settings"→ "Utility"→ "Rec Audio Sync" on p. 57).

Saving your recording as an audio file

When you stop recording (see above), the display shows the following message:



1. **If you want to name your new song, proceed with step (2).**
   If you are happy with the name suggested by the JM-5, simply press the [MENU] button.
2. **Rotate the [CURSOR/VALUE] dial to select a character.**

3. **Press the dial to confirm your selection.**
4. **Now rotate the [CURSOR/VALUE] dial to select a different character position.**
   You can also press the [◀◀] button to delete the selected character, or the [▶▶] button to insert a character.
5. **Repeat steps (2)~(4) to complete the name.**
6. **Press the [MENU] button (it flashes) to save your recording under the new name and to return to the main page.**
   If the USB storage device already contains a file of that name, you will be asked whether you want to overwrite it:

In this case, select "YES" by first rotating the [CURSOR/VALUE] dial and then pressing it to replace the old file with the new one (the old file will be lost).
Otherwise, select "NO" to return to the page where you can change the name, and enter a different name, then press the [MENU] button.

When you press the [MENU] button, your audio file is saved to the "My Recordings" folder on the USB storage device.

9. Adding pictures to the music

You can connect an external display or a television set to the JM-5, and use it to watch a slide show, or single pictures.

Displaying photos automatically

The JM-5 can display digital photos either in succession, thus creating an automatic slide show, or use the picture you choose as background on the external screen.

Enjoying a VIMA TUNES slide show

You can watch a slide show while listening to a "VIMA TUNES" song (produced for the VIMA series).

Songs on "VIMA TUNES" CD-ROMs provide slide show images suitable for each song, making it easy for you to enjoy a slide show without having to provide your own photos.

1. **Connect an external screen to the JM-5 (page 15).**
2. **Connect an optional CD player to the JM-5's external memory USB port.**
3. **Insert the desired "VIMA TUNES" CD-ROM into the CD drive.**

   NOTE

   "VIMA TUNES" songs are sold on CD-ROMs available from your Roland dealer.

   The JM-5 now displays a list of the songs on the CD-ROM. If you don't see that list, press the [USB MEMORY] button.
4. **Select the song you want to play back by first rotating the [CURSOR/VALUE] dial and then pressing it to confirm your selection.**

   The [USB MEMORY] button's indicator lights.
5. **Press the [►/II] button to play back the song.**
   A slide show suitable for the character of the song will be shown on the external display or television set connected to the JM-5.

   NOTE

   When you press the [■] button to stop song playback, the slideshow also stops. When you load another "VIMA TUNES" song, the previous slideshow stops and the display shows the first picture for the new song.

Enjoying a slide show of your own pictures

You can watch a slide show while listening to a song on a USB storage device.

NOTE

The slide show only starts if the folder that contains the desired pictures has the same name as the song file you selected. Also, the folder must be located on the same level within the USB memory's file hierarchy.

1. **Use a graphic program on your computer to prepare the pictures you want to use.**
   Image data that can be displayed:

Size	Recommended: 512 x 384 or 1024 x 768 pixels. (Images of 4096 x 3072 pixels or smaller and 4MB or less are supported). Note: If you use images that are larger than the recommended size, it may take longer to switch images.
Format	JPEG format (JPG)

2. **Connect the USB memory to your computer and create a folder named "Amazing Grace" (for example) on the USB storage device.**
3. **Copy the pictures you want to display for this song to the "Amazing Grace" folder.**
4. **Copy the song "Amazing Grace" to the same level as the folder of the same name. (Do not put the song file inside the folder.)**
5. **Disconnect the USB memory from your computer in accordance with the standard procedure for the operating system you are using.**
6. **Connect your USB memory to the JM-5's EXTERNAL MEMORY port.**

   The JM-5 automatically shows the contents of the USB memory you inserted.

7. **Select the song you want to play back ("Amazing Grace" in our example) by first rotating the [CURSOR/VALUE] dial and then pressing it to confirm your selection.**
8. **Press the [▶/II] button to play back the song.**
   The slide show of the pictures inside the "Amazing Grace" folder begins.

NOTE

The slide show stops when you pause or stop song playback, but the last picture is still displayed. You need to load a different song that has no associated slide show to cause the background or logo to be displayed (see "Using one of your own pictures as background").

Using one of your own pictures as background

The JM-5 allows you to use one of your own pictures as screen background, allowing you to customize your performances.

1. **Connect the USB storage device that contains the picture you want to use to the JM-5's external memory port.**

   The display shows a list of the files on the USB storage device.
2. **Select the .JPG file you want to use.**
   That picture now appears on the external screen (if connected).
   This picture will be considered your "User" setting and the "Background Mode" parameter (see p. 56) will be set to "USER".
3. **To revert to the colored background or logo, you must select it using the "Background Mode" parameter (see p. 56).**
   If you once again select a .JPG picture (see above), the "Background Mode" parameter is again set to "User".

■ **'User' background and slide shows**
Even after selecting a new background picture ("User"), you can still take advantage of the JM-5's slide show functionality (see p. 32).

If you select a song for which there is no picture folder on the same file level as the song file, however, your "User" background is displayed.

■ **Picture display and song lyrics**
If the first words (Lyrics data) of the last song you played back remain on the external screen while they are no longer needed, switch off the "External Lyrics" function (see p. 55) to make them disappear.

10. Functions related to song playback

Using the Finder to locate songs or pictures

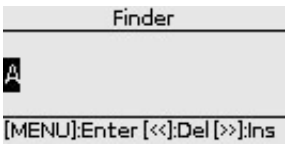
The JM-5 provides a "Finder" function that allows you to search the connected USB storage device for the files you need. This function is available even while the JM-5 is playing back a song, allowing you to prepare the next song or picture without keeping your audience waiting.

1. **Press the [USB MEMORY] button.**

The display shows the contents of the connected USB storage device.

2. **If you know the folder where the file is located, select it by rotating the [CURSOR/VALUE] dial and then pressing it.**
If you are not sure about the location, **do not** select a folder to avoid that the "Finder" function only looks in that folder.
3. **Press the [FINDER] button.**

The display changes to:



The first character position is already selected ("A").

4. **Rotate the [CURSOR/VALUE] dial to select the first character of the song or picture name (or fragment) the JM-5 should look for.**
5. **Press the [CURSOR/VALUE] dial to confirm your selection (the cursor changes to an underscore).**
6. **Rotate the [CURSOR/VALUE] dial to select the next (or another) character position, then press the dial.**
7. **Repeat steps (4)~(6) to complete the character string you are looking for.**
8. **If you made a mistake, correct it using one of the following procedures:**

Correction	Procedure
Change an existing character	(a) Press the [CURSOR/VALUE] dial once or twice until the cursor becomes an underscore. (b) Rotate the dial to select the erroneous character, then press the dial. (c) Rotate the dial to select the correct character, then press the dial.
Delete a character	Perform steps (a) and (b) above, then press the [◂◂] button.
Insert a character	(a) Perform steps (a) and (b) above, then press the [▸▸] button. The new character position is inserted before the position you selected. (b) Press the dial to select the current position for editing, then rotate the dial to change the newly added character. Press the dial to confirm your setting.

9. **Press the [MENU] button to start the search.**

NOTE

If you decide that you don't want to use the "Finder" function, press [EXIT] instead of [MENU].

The JM-5 searches the USB storage device for files whose names match the character string you entered and displays them:

NOTE

The "Finder" function can find and display 100 files at a time.

10. **Rotate the [CURSOR/VALUE] dial to select the song you want to play back, then press the dial to confirm your selection.**

11. **Press the [EXIT] button to close the list.**
12. **Press the [►/II] button to start playback of the selected song.**

NOTE

You can also select the "Finder" function while the JM-5 doesn't display the contents of your USB storage device. In that case, however, the search will be restricted to the last folder you selected (if any).

Using 'Next' to create transitions

The "Next" function allows you to create medleys of separate songs by automatically fading out the current song and fading in the new song.

1. **Select the first song you want to play back.**
   This can be any song on your USB storage device, or a song of your playlist (see p. 36).
2. **Press the [►/II] button to start playback of that song.**
3. **While playback is still running, select another song.**
   If you prepared a playlist with all the songs you want to use for your medley, the JM-5 selects subsequent songs automatically.

   If you do not select a song in step (3), pressing [NEXT] will select the next song in alphabetical order and make the transition. (If the folder of the song that is currently playing contains no additional songs, pressing [NEXT] does nothing.)

   You can also briefly press the [EXIT] button to return to a higher folder or the USB memory's root directory before pressing [NEXT] in step (4). In that case, pressing [NEXT] will start a song of the newly selected folder or the root directory.

NOTE

To take advantage of this navigation trick, do not press and hold the [EXIT] button unless you want to return to the main page. Otherwise, the [NEXT] button keeps selecting songs within the folder of the song that is currently being played back.

If you selected a playlist that contains only one song, pressing [NEXT] does nothing. If your playlist contains several songs, however, automatic song selection will be based on the order in which the songs appear in the playlist. We therefore recommend using a playlist for your "standard" medleys rather than a folder on the USB storage device.

NOTE

You can also mix manual and automatic song selection.

4. **Press the [NEXT] button when you want to make the transition to the new song you selected.**

There is no need to wait until the current song finishes: press [NEXT] when you feel the crowd is ready for a new song.

Here is what happens when you press [NEXT]:

Current song → new song	Transition to new song
Audio → audio	Cross-fade: fade-out of current song and simultaneous fade-in of new song.
SMF → SMF SMF → audio Audio → SMF	The current song stops with a fade-out, and after a brief interval, the new song starts with a fade-in.

During the transition between the old and the new song, the [NEXT] button's indicator flashes.

Using playlists

The "Playlist" function allows you to prepare lists of all songs you want to use during a performance. The advantage of working with such "chains" is that you do not need to select files between songs. You can also use this functionality to provide background music between performances.

The JM-5 ships with a playlist called "Demo Playlist" and 20 songs to which the playlist refers. This playlist cannot be deleted.

Loading a playlist and playing back a song

1. **Connect an optional USB storage device to the JM-5's external memory port.**

NOTE

There is no need to connect a USB memory if you want to use the "Demo Playlist" file, because it is stored internally.

2. **Press the [PLAYLIST] button.**

The display now shows a list of all available playlists.

The first line always contains the name of the internal playlist ("Demo Playlist").

NOTE

If you already selected a playlist at an earlier stage since switching on the JM-5, pressing [PLAYLIST] will show you the list of songs this playlist refers to. To select a different playlist at this stage, press the [EXIT] button.

3. **Rotate the [CURSOR/VALUE] dial to select the playlist you want to use.**
4. **Press the [CURSOR/VALUE] dial to confirm your selection.**
   The display changes to:

5. **Rotate the [CURSOR/VALUE] dial to select "Load".**
6. **Press the [CURSOR/VALUE] dial to confirm your selection.**
   The [PLAYLIST] button lights to indicate that the JM-5 is ready to use the selected playlist, and the display shows a list of the songs that the active playlist refers to:

7. **If you do not want to start playback from the first song in the list, rotate the [CURSOR/VALUE] dial to select another song, then press the dial to confirm.**
8. **Press the [▶/II] button to start playback.**

NOTE

You can also use the "Next" function to create smooth transitions between the songs of the selected playlist (see p. 35).

Renaming a playlist

The "Rename" function allows you to change the name of an existing playlist.

1. **Connect an optional USB storage device to the JM-5's external memory port.**
2. **Press the [PLAYLIST] button.**

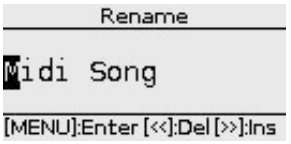
The display now shows a list of all available playlists.

NOTE

If you already selected a playlist at an earlier stage since switching on the JM-5, pressing [PLAYLIST] will show you the list of songs this playlist refers to. To select a different playlist at this stage, press the [EXIT] button.

3. **Rotate the [CURSOR/VALUE] dial to select the playlist you want to rename.**
4. **Press the [CURSOR/VALUE] dial to confirm your selection.**
   The display changes to:

5. **Rotate the [CURSOR/VALUE] dial to select "Rename".**
6. **Press the [CURSOR/VALUE] dial to confirm your selection.**
   The display changes to:



7. **Rotate the [CURSOR/VALUE] dial to change the first character of the name.**
8. **Press the [CURSOR/VALUE] dial to confirm your selection (the cursor changes to an underscore).**
9. **Rotate the [CURSOR/VALUE] dial to select the next (or another) character position, then press the dial.**
10. **Repeat steps (7)~(9) to complete the character string you are looking for.**

11. If you made a mistake, correct it using one of the following procedures:

Correction	Procedure
Change an existing character	(a) Press the [CURSOR/VALUE] dial once or twice until the cursor looks like an underscore. (b) Rotate the dial to select the erroneous character, then press the dial. (c) Rotate the dial to select the correct character, then press the dial.
Delete a character	Perform steps (a) and (b) above, then press the [◄] button.
Insert a character	(a) Perform steps (a) and (b) above, then press the [►] button. The new character position is inserted before the position you selected. (b) Press the dial to select the current position for editing, then rotate the dial to change the newly added character. Press the dial to confirm your setting.

12. Press the [MENU] button to confirm the new name.

The display returns to the list of available playlists.

If the USB storage device already contains a file of that name, you will be asked whether you want to overwrite it:

In this case, select "YES" using the [CURSOR/VALUE] dial to replace the old file with the new one (the old file will be lost).

Otherwise, select "NO" to return to the "Rename" page and enter a different name.

Deleting a playlist

Playlists that you no longer need can be deleted. Note that this will not reclaim a big amount of storage capacity, because the JM-5's playlists only contain references to the song files—not the songs themselves.

1. **See steps (1)~(4) under "Renaming a playlist" on p. 37 for how to select the playlist file you want to delete.**

2. **Rotate the [CURSOR/VALUE] dial to select "Delete".**
3. **Press the [CURSOR/VALUE] dial to confirm your selection.**
   The display changes to:

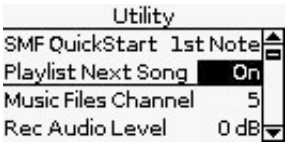
4. **Select "YES"** by first rotating the [CURSOR/**VALUE**] dial and then pressing it **to delete the playlist file.**
   The JM-5 returns to the list of available playlists.
   If you do not want to delete your playlist after all, select "NO".

Specifying the playlist behavior

The JM-5 provides a function that lets you specify whether all songs of the selected playlist should be played back one after another or whether playback should stop at the end of each song. This function is on by default, but performers who rely on the "Playlist" functionality for their set may want to switch it off.

1. **Press the [MENU] button.**

2. **Use the [CURSOR/VALUE] dial to select "User Settings"→ "Utility"→ "Playlist Next Song".**



3. **Use the [CURSOR/VALUE] dial to select the desired setting:**

Setting	Meaning
On	All songs of the selected playlist are played back in succession. (Pressing the [■] button during playlist playback automatically selects the next song.)
Off	Playback stops at the end of the current step. Pressing the [■] button will not select the next song: the JM-5 will return to the beginning of the current song.

4. **Press and hold the [EXIT] button to return to the main page where you will find all important information regarding the selected song.**

Creating new playlists and adding songs

The "Make New Playlist" function allows you to create new playlists. New playlists you create are empty at first, but you can use the "Add" function to populate them with the desired song file references.

1. **Press the [PLAYLIST] button.**

The display shows a list of all available playlists.

NOTE

If you already selected a playlist at an earlier stage since switching on the JM-5, pressing [PLAYLIST] will show you the list of songs this playlist refers to. To select a different playlist at this stage, press the [EXIT] button.

2. **Select any playlist file and press the [CURSOR/VALUE] dial.**
If you select the "Demo Playlist" entry and press the [CURSOR/VALUE] dial, the JM-5 will only display the "Load" and "Make New Playlist" functions.
3. **Rotate the [CURSOR/VALUE] dial to select "Make New Playlist".**

After selecting a playlist file on the USB storage device:

After selecting the "Demo Playlist" entry:

4. **Press the [CURSOR/VALUE] dial.**
The display changes to:

5. **Press the [PLAYLIST] button and select "Add".**
The display changes to:

6. **Press the [CURSOR/VALUE] dial to call up a list of all song files on the USB memory.**

7. **Use the [CURSOR/VALUE] dial to select the folder that contains the desired song (if necessary).**
8. **Rotate the [CURSOR/VALUE] dial to select the name of the song you want to add to the playlist and press the dial.**
Repeat this step for all songs you wish to add to your playlist.

You can select all song files in the current folder by pressing the [PLAYLIST] button to select "[PLAYLIST]: All".

9. **Press the [MENU] button (its indicator flashes) to insert the song names in your playlist.**

The asterisk (*) to the right of the playlist name means that the playlist has been edited and that you need to save it to keep those changes. See "Saving an edited playlist" on p. 42.

Quickly finding songs for your playlists

While compiling new playlists (or adding songs to an existing playlist), you can use the "Finder" function to locate the song(s) you need. To do so, proceed as follows:

1. **Connect the USB storage device that contains the desired songs to the external memory port and load an existing playlist, or create a new one (see "Creating new playlists and adding songs" on p. 39).**
2. **Select the playlist you wish to modify.**

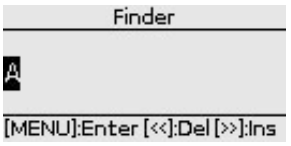
NOTE

While a playlist is selected, the "Finder" function only looks for song files (picture files are ignored).

3. **Press the [PLAYLIST] button, select "Add", then press the [CURSOR/VALUE] dial.**
The display changes to:

4. **Press the [FINDER] button.**

The display changes to:



The first character ("A") is already selected.

5. **Rotate the [CURSOR/VALUE] dial to select the first character of the song name (or fragment) the JM-5 should look for.**
6. **Press the [CURSOR/VALUE] dial to confirm your selection (the cursor changes to an underscore).**
7. **Rotate the [CURSOR/VALUE] dial to select the next (or another) character position, then press the dial.**
8. **Repeat steps (5)~(7) to complete the character string you are looking for.**
9. **If you made a mistake, correct it using one of the procedures described in the table on page 34.**
10. **Press the [MENU] button to start the search.**

The JM-5 searches the USB storage device for files whose names match the character string you entered and displays them:

NOTE

The "Finder" function can find and display 100 files at a time.

11. **Use the [CURSOR/VALUE] dial to select the song you want to add, then press the [MENU] button to add it to the playlist.**
    This takes you back to the "Edit/Save" page:

Deleting playlist steps

You can also remove song steps that you no longer need. This only deletes the playlist step in question—the song file it refers to remains on the USB storage device.

1. **See "Loading a playlist and playing back a song" on p. 36.**
2. **If necessary, press the [PLAYLIST] button to call up the list of songs the selected playlist refers to.**

3. **Select the step you want to remove.**

4. **Press the [PLAYLIST] button and rotate the [CURSOR/VALUE] dial to select "Delete".**
5. **Press the [CURSOR/VALUE] dial.**
   The display changes to:

6. **Rotate the [CURSOR/VALUE] dial to select "YES", then press the dial to delete the playlist step.**

As a reminder: the song file will not be deleted even though this display may suggest otherwise. Only the playlist step will be removed.

Select "NO" if you don't want to delete the playlist step after all.

Moving existing steps to a different position

You can also change the order of existing steps in your playlist.

1. **See "Loading a playlist and playing back a song" on p. 36.**
2. **If necessary, press the [PLAYLIST] button to call up the list of songs the selected playlist refers to.**

3. **Press the [PLAYLIST] button and rotate the [CURSOR/VALUE] dial to select "Move".**
4. **Press the [CURSOR/VALUE] dial.**
5. **Select the step you want to move to a different location.**

The selected playlist is step is now highlighted:

6. **Rotate the [CURSOR/VALUE] dial to select the new position for the highlighted playlist step.**
7. **Press the [CURSOR/VALUE] dial to confirm the operation.**
8. **Press the [EXIT] button to return to the song list.**

NOTE

An asterisk (*) next to the playlists's name means that you have changed it and need to save it to keep your changes.

Transposing songs in the 'Playlist' environment

This function allows you to change the key of songs contained in your playlist.

NOTE

The transposition interval you select in this way is not stored in the referenced song file, allowing you to use a different transposition setting in another playlist if necessary.

1. **See "Loading a playlist and playing back a song" on p. 36.**
2. **If necessary, press the [PLAYLIST] button to call up the list of songs the selected playlist refers to.**

The field to the left of each song name indicates the current transposition interval. The value "0" means that the song in question will not be transposed during playlist playback.

3. **Rotate the [CURSOR/VALUE] dial to select the playlist step you want to transpose ("A Lessie.MID" in our example.)**
4. **Press the [KEY] button.**

The transposition interval field is highlighted to indicate that you can change it.

5. **Rotate the [CURSOR/VALUE] dial to change the transposition interval (–6~+5 semitones).**

NOTE

You can even change the "Key" setting of a playlist step while another song is being played back without affecting that other song.

6. **Press the [KEY] button again to deactivate the transposition interval field.**

Saving an edited playlist

After creating a new or editing an existing playlist, you must save your changes if you want to keep them.

1. **Press the [PLAYLIST] button and use the [CURSOR/VALUE] dial to select "Save Playlist".**

2. **Press the [CURSOR/VALUE] dial to call up the following page:**

The first character position is already selected.

NOTE

If you don't need to change the playlist's name, skip to step (8).

3. **Rotate the [CURSOR/VALUE] dial to select the first character.**
4. **Press the [CURSOR/VALUE] dial to confirm your selection (the cursor changes to an underscore).**
5. **Rotate the [CURSOR/VALUE] dial to select the next (or another) character position, then press the dial.**
6. **Repeat steps (3)~(5) to complete the name.**
7. **If you made a mistake, correct it using one of the procedures described in the table on page 34.**
8. **Press the [MENU] button to confirm your desire to save the playlist.**

The display returns to the list of available playlists.

If the USB memory already contains a playlist file of that name, you will be asked whether you want to overwrite it:

In this case, select "YES" using the [CURSOR/VALUE] dial to replace the old file with the new one (the old file will be lost).

Otherwise, select "NO" to return to the "Save Playlist" page and enter a different name.

11. Playback functions for SMF songs

The JM-5 can also play back Standard MIDI Files (called "SMF"). Those are special song files with the ".mid" (or ".kar") extension that require a tone generator for playback. The JM-5 contains such a tone generator and even allows you to change the orchestration and other aspects of such files.

SMF Cover: changing the orchestration

→ *Only available for Standard MIDI Files.*

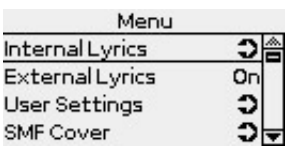
The "SMF Cover" function provides "masks" that change the instrumentation of the selected song. Simply by selecting another preset, you can cause a Viennese waltz to be played back by a heavy metal band, etc.

1. **Select the SMF song you want to modify (see p. 20).**
2. **Press the [▶/II] button to start playback of that song.**

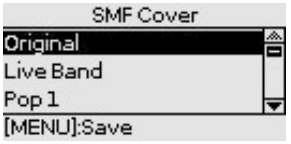
This allows you to listen to the song before you start editing it.

3. **Press the [MENU] button.**

The display changes to:



4. **Rotate the [CURSOR/VALUE] dial to select "SMF Cover".**
5. **Press the dial.**
   The display changes to:



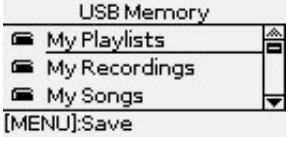
6. **Use the [CURSOR/VALUE] dial to select one of the 30 preset settings.**
   The names of the preset options already provide a good indication of what to expect.
   After selecting a preset, you can return to the original orchestration ("Original").
7. **Try out various presets.**
8. **If you like the new version better than the original one, you can press the [MENU] button to save the song to the connected USB memory with this information (see below).**

NOTE

The "SMF Cover" information is part of the data only the JM-5 understands. Other SMF players (or sequencer software) ignore these settings.

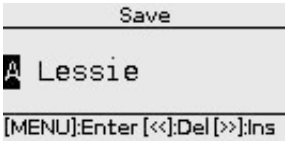
Saving your modified SMF song

1. **On the display page shown above, press the [MENU] button.**
   The display shows the last folder you selected on the USB memory.
2. **Select a different folder if you don't want to replace the original version of your song file.**



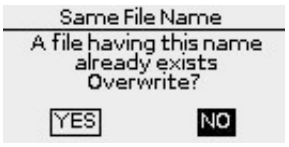
3. **Press the [MENU] button.**

The display changes to:



4. **Rotate the [CURSOR/VALUE] dial to select the character position you want to change, then press the dial.**
5. **Rotate the [CURSOR/VALUE] dial to select the desired character.**
6. **Press the [CURSOR/VALUE] dial to confirm your selection (the cursor changes to an underscore).**
7. **Repeat steps (4)~(6) to complete the name.**
8. **If you made a mistake, correct it using one of the procedures described in the table on page 34.**
9. **Press the [MENU] button to confirm your desire to save the song.**
   The display returns to the "SMF Cover" list.

If the USB storage device already contains a song file of that name, you will be asked whether you want to overwrite it:



In this case, select "YES" using the [CURSOR/VALUE] dial to replace the old file with the new one (the old file will be lost).

Otherwise, select "NO" to return to the "Save" page and enter a different name.

Using the SMF compressor and SMF equalizer

The JM-5 contains two effect processors that allow you to change the sound of SMF songs (WAV and mp3 files cannot be processed in this way).

Although they are not meant to be changed for every song you intend to play back, switching settings is relatively easy and could therefore be used to great effect.

NOTE

These parameters also affect the External Tone Parts (page 59).

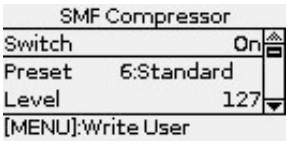
SMF Compressor

The multi-band compressor/limiter allows you to process three frequency ranges separately. A compressor reduces high levels (peaks) and boosts low levels, smoothing out fluctuations in volume.

1. **Select an SMF song (see p. 20).**
2. **Press the [MENU] button.**

The display changes to:

3. **Rotate the [CURSOR/VALUE] dial to select "SMF Compressor".**
4. **Press the dial.**
   The display changes to:



NOTE

The settings you make on this page can be saved to a User memory and recalled as and when necessary.

5. **Press [►/II] to start playback of the selected song.**
6. **Rotate the [CURSOR/VALUE] dial to select the "Switch" parameter, then press the dial.**

7. If necessary, rotate the [CURSOR/VALUE] dial to select "On", then press the dial.
The compressor is now active and will affect SMF song playback.

8. Rotate the [CURSOR/VALUE] dial to select the "Preset" parameter, then press the dial.

9. Rotate the [CURSOR/VALUE] dial to select one of the available presets, then press the dial.
The available presets are:

1. Hard Comp
2. Soft Comp
3. Low Boost
4. Mid Boost
5. High Boost
6. Standard
7. User

10. If none of the preset memories contains the settings you need, use the [CURSOR/VALUE] dial to select and set the following parameters:

Parameter	Setting range	Explanation
Level	0~127	Use this parameter to set the compressor's input level. The higher the value, the stronger the three frequency bands are compressed. The value you set here is added to the "Level" settings of the three bands. If you set this parameter to "0", the compressor has no effect on the output signal.
Gain	–12~0~12dB	Use this parameter to correct the level at the compressor's outputs. If the settings of the remaining parameters lead to a significantly lower level, select a positive value. If your settings lead to a significantly higher level, select a negative value. "0" means that the level is neither boosted nor attenuated.

High/Mid/Low: Because the remaining parameters are the same for each band, we will only discuss them once. As you see, each of the three frequency ranges has its own set of parameters that allow you to specify their behavior.

Parameter	Setting range	Explanation
Attack	0~100ms	Use this parameter to specify how fast the compressor of the band in question should start processing the signal once the level of that band exceeds the "Threshold" level. Choose a smaller value if you prefer a compression similar to that of FM radio stations. Higher values may yield a "snappier" or "funkier" sound.
Release	50~5000ms	This parameter allows you to specify how fast the compressor of the corresponding band should stop working when the signal level drops below the "Threshold" value.
Threshold	–36~0dB	This parameter allows you to set the level the frequency band ("High", "Mid" or "Low") must reach to trigger its compressor. The lower the value, the more noticeable the compression will be.
Ratio	1:1.0~1:INF	Use this parameter to specify how strongly the level should be reduced when the band's level exceeds the "Threshold" level. "1:2.0", for example, means that level values above the "Threshold" level are halved. "1:INF" is useful if you set "Threshold" to "0dB" or thereabout. This produces a limiter effect, which means that no signal level will ever exceed the "Threshold" value. This may help you protect the speakers of the PA system etc.
Level	–24~+24dB	This parameter allows you to establish the desired mix among the three compressor bands. Choose a negative value to decrease the level, or a positive one to increase it. Choose "0" for a band whose level is OK as is.

Parameter	Setting range	Explanation
Split High	2000~1200Hz	These two parameters specify the frequency where two bands are separated. The compressor has three bands, and so there are two crossover frequencies you can set: "High" between the "Mid" and "High" ranges; and "Low" between the "Mid" and "Low" ranges.
Split Low	80~800Hz	

11. To save the settings you have just made, press the [MENU] button.

Note: There is only one "User" memory (memory no. 7) for your own settings. By saving new settings, you therefore overwrite the previous ones.

NOTE

When you switch on the JM-5, it automatically loads the "User" settings.

12. Select "YES" and press the [CURSOR/VALUE] dial if your new settings should replace the previous "User" settings.

Select "NO" and press the [CURSOR/VALUE] dial to return to the "SMF Compressor" page.

13. Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.

SMF Equalizer

1. Select an SMF song (see p. 20).

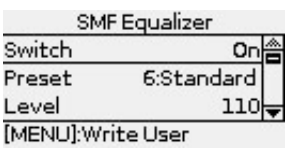
2. Press the [MENU] button.

The display changes to:

3. Rotate the [CURSOR/VALUE] dial to select "SMF Equalizer".

4. Press the dial.

The display changes to:



NOTE

The settings you make on this page can be saved to a User memory and recalled as and when necessary.

5. Press [►/II] to start playback of the selected song.

6. Rotate the [CURSOR/VALUE] dial to select the "Switch" parameter, then press the dial.

7. If necessary, rotate the [CURSOR/VALUE] dial to select "On", then press the dial.

The equalizer has the same function as the TREBLE, MID and BASS knobs on a mixer: it allows you to color the sound, or to apply tonal corrections.

The equalizer is now active and will affect SMF song playback.

8. Rotate the [CURSOR/VALUE] dial to select the "Preset" parameter, then press the dial.

The available presets are:

1. Flat
2. Rock
3. Pop
4. Jazz
5. Classic
6. Standard
7. User

9. If none of the preset memories contains the settings you need, you can change the following parameters using the [CURSOR/VALUE] dial.

NOTE

The settings you make on this page can be saved to a "User" memory and recalled as and when necessary.

Parameter	Setting range	Explanation
Level	0~127	Use this parameter to set the equalizer's input level. This may be necessary when the level of the input signals is so high that the sound distorts. **NOTE** Do not set this parameter to "0" if the equalizer is switched on, because doing so means that the SMF song is no longer audible.
Gain	-9~0~9dB	Use this parameter to correct the level at the equalizer's outputs. If the settings of the remaining parameters lead to a significantly lower level, select a positive value. If your settings lead to a significantly higher level, select a negative value. "0" means that the level is neither boosted nor attenuated.

Parameter	Setting range	Explanation
High Frequency	2000~ 12000Hz	Allows you to set the cutoff frequency of the high band (this is a shelving filter).
High Gain	–15~15dB	Use this parameter to set the level of the selected "High" frequency. Positive values boost (increase the volume of) that frequency band, negative values cut (attenuate) it.
Mid Frequency	200~8000Hz	Allows you to set the cutoff frequency of the middle band (this is a peaking filter).
Mid Q	0.5, 1, 2, 4, 8	Use this parameter to specify the width of the "Mid Frequency" band that you want to boost or cut. Smaller values mean that neighboring frequencies above/below that value are also affected.
Mid Gain	–15~15dB	Use this parameter to set the level of the selected "Mid" frequency.
Low Frequency	50, 80, 100, 150, 200, 250, 300, 400Hz	Allows you to set the cutoff frequency of the low band (this is a shelving filter).
Low Gain	–15~15dB	Use this parameter to set the level of the selected "Low" frequency.

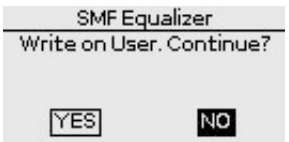
10. To save the settings you have just made, press the [MENU] button.

Note: There is only one "User" memory (memory no. 7) for your own settings. By saving new settings, you therefore overwrite the previous ones.

NOTE

When you switch on the JM-5, it automatically loads the "User" settings.

11. Select "YES" and press the [CURSOR/VALUE] dial if your new settings should replace the previous "User" settings.



Select "NO" and press the [CURSOR/VALUE] dial to return to the "SMF Equalizer" page.

12. Press and hold the [EXIT] button to return to the main page.

Song (SMF) Makeup Tools

This function allows you to actually edit the selected SMF song (Standard MIDI File) without paying too much attention to the underlying parameters.

NOTE

The "SMF Makeup Tools" cannot be used to edit Standard MIDI Files that use the XG format.

Using the SMF Makeup Tools

1. Select the SMF song you wish to modify (see p. 20).

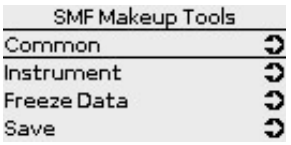
2. Press the [▶/II] button to start playback of the song.

This allows you to listen to the song before you start editing it. Press the [▶/II] button again to halt playback.

3. Press the [MENU] button.

(4) Rotate the [CURSOR/VALUE] dial to select "SMF Makeup Tools", then press the dial.

The display changes to:

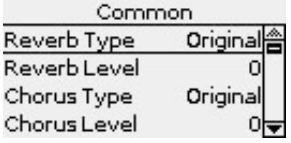


This menu allows you to select the following entries:

Menu Option	Explanation
Common	Select this entry to change common parameters that affect the song as a whole, like the reverb or chorus effect, the tempo, etc.
Instrument	Select this entry to change the instruments used in the song and their parameters.
Freeze Data	Select this entry to "burn" your new settings into the file. Doing so will allow you to use your new version with any sequencer (software).
Save	Select this entry to save your song with the "Song Makeup Tools" settings you have made.

■ **If you select "Common"...**

...the following display page appears:



The "Common" parameters on this page apply to the entire song.

1. **Rotate the [CURSOR/VALUE] dial to select the desired "Common" parameter, then press the dial.**

The following parameters are available:

Reverb Type: This parameter allows you to specify what kind of reverb effect you need. The available reverb types are:

Setting	Meaning
Original	This setting means that the song uses its own (programmed) reverb settings.
Room1, Room2, Room3	These types simulate the reverb characteristics of a room. The higher the number (1, 2 or 3), the bigger the "room" becomes.
Hall1, Hall2	These types simulate the reverb of a small (1) or large (2) concert hall and thus sound much "bigger" than the Room types above.
Plate	This algorithm simulates the acoustics of a concert hall.
Delay	A delay effect (no reverb). Works a lot like an echo effect and thus repeats the sounds.
Pan Delay	This is a stereo version of the above delay effect. It creates repetitions that alternate between the left and right channels.

Reverb Level: This parameter allows you to modify the output level of the Reverb processor.

Chorus Type: Chorus broadens the spatial image of the sound and creates a stereo impression. You can choose from 8 types of chorus.

Setting	Meaning
Original	The song uses its own (programmed) chorus settings.
Chorus 1~4	These are conventional chorus effects that add spaciousness and depth to the sound.
Fbk Chorus	This is a chorus with a flanger-like effect and a soft sound.
Flanger	This is an effect that sounds somewhat like a jet airplane taking off and landing.
Short Delay	This is a full-fledged delay effect that can be used instead of a chorus or flanger. As you will see, there are a lot of parameters you can program.
Short Dly FB	This is a short delay with many repeats.

Chorus Level: This parameter allows you to modify the output level of the Chorus processor.

Song Volume: This parameter allows you to set the overall volume of the selected song if you think it is too loud/soft compared with other songs.

Song Tempo: Allows you to change the song's tempo (♩= 20~250).

Transpose: This parameter allows you to transpose all song parts (except the drums) up to 12 semitones (1 octave) up or down. This value is written to the song data and used every time you play back this song.

Undo Changes: This function allows you to cancel all "SMF Makeup Tools" settings you have made and to revert to the previously saved version. After selecting this parameter with the [CURSOR/VALUE], press the dial to restore the setting of the last version you saved.

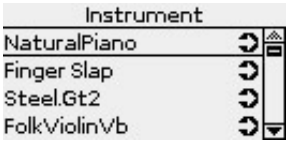
2. **If you are satisfied with your changes and wish to preserve them, save your song to the USB storage device.**
See "Saving your new song version" on p. 53.

NOTE

The changes you make using the procedure described above can be "burned" into the song file using the "Freeze Data" (see p. 53) and "Save" commands. Doing so will allow you to hear those changes on any sequencer (software) you use. Changes you don't "freeze" are nevertheless stored when you save the edited song file—but only the JM-5 can read them.

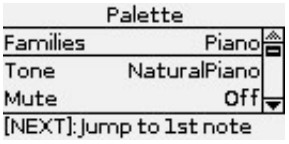
■ If you select "Instrument"

The display will show a list of all instruments that are used by the selected song:



1. **Rotate the [CURSOR/VALUE] dial to select the instrument you want to change, then press the dial.**

The display changes to:



2. **Press the [NEXT] button to jump to the location where the instrument is used.**
Playback starts automatically from that point.
3. **Rotate the [CURSOR/VALUE] dial to select the parameter you wish to edit, then press the dial.**

NOTE

If you select a Drum Set in step (1) above, the parameter list looks slightly different than for instruments that do not use a Drum Set. "Drum Sets" are special "Tones" that assign different sounds to most keys/note numbers, allowing you (and the JM-5) to play realistic drum and percussion parts.

In the following, "**(T)**" refers to parameters that are only available for regular instruments (also called "Tones"), while "**(D)**" refers to parameters that are only available for Drum Sets.

The following parameters are available:

Families (T)
Allows you to select a different Tone family. See page 80 for a list of available Tones and Drum Sets.

Parameter	Explanation
Families	The JM-5's Tones are grouped into 15 families (guitar, bass, strings, etc.) and 1 Drum Kit.

Tone (T)/Drum (D)
Allows you to select a different Tone within the active Tone family. See page 80 for a list of available Tones and Drum Sets.

Parameter	Explanation
Tone (T) Drum (D)	The number of Tones depends on the selected family.

Mute (T)/Drum Mute (D)
Switches the selected instrument off. The corresponding part is no longer played back. (This setting only applies to the selected instrument and thus not necessarily to the entire track.)

NOTE

In the case of the drums, you can mute two instrument groups ("Drum Mute" and "Perc Mute", see below) separately.

Parameter	Setting
Mute (T) Drum Mute (D)	On/Off

Solo
Switches off all instruments except the selected instrument.

Parameter	Setting
Solo	On/Off

Perc Mute (D)
Suppresses (or adds) the percussion sounds used by the drum part.

Parameter	Setting
Perc Mute	On/Off

Volume
Adjusts the volume of the selected instrument. Negative values decrease the current volume, positive values increase it. (This is a relative setting that is added to, or subtracted from, the original setting.)

Parameter	Setting
Volume	-127~0~+127

Reverb
Use this parameter to set the reverb send level. Negative values decrease the current reverb send level, positive values increase it. (This is a relative setting that is added to, or subtracted from, the original setting.)

Parameter	Setting
Reverb	-127~0~+127

Chorus
Use this parameter to set the chorus send level. Negative values decrease the current chorus send level, positive values increase it. (This is a relative setting that is added to, or subtracted from, the original setting.)

Parameter	Setting
Chorus	-127~0~+127

Panpot
Use this parameter to change the stereo placement of the selected instrument. "0" means "no change", negative (–) values shift the instrument towards the left and positive (+) values shift it towards the right.

Parameter	Setting
Panpot	-127~0~+127

NOTE
In the case of Drum Sets, this setting applies to all drum/percussion instruments. There is also a parameter that can be set for specific drum instruments. See page 53.

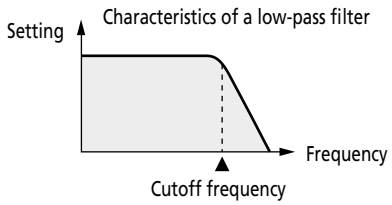
Octave (T)
Use this parameter to transpose the selected instrument up or down by up to 4 octaves.

Parameter	Setting
Octave	-4~0~+4

Velocity
This parameter allows you to modify the velocity range of the instrument in question. "0" means that the recorded velocity values are left untouched, negative values reduce all velocity values by the same amount (leaving differences between notes intact), while positive settings increase all velocity values.

Parameter	Setting
Velocity	-127~+127

Cut Off
This filter parameter allows you to make the selected sound darker or brighter. Positive settings mean that more overtones are allowed to pass, so that the sound becomes brighter. The further this value is set in the negative direction, the fewer overtones will be allowed to pass and the sound will become softer (darker).



Parameter	Setting
Cut Off	-127~+127

NOTE
For some sounds, positive (+) "Cut Off" settings will cause no noticeable change because the preprogrammed "Cut Off" parameter is already set to its maximum value.

Resonance
This is a parameter one invariably associates with a synthesizer. When the "Resonance" value is increased, the overtones in the area of the cutoff frequency will be emphasized, creating a sound with a strong character.

Parameter	Setting
Resonance	-127~+127

NOTE
For some sounds, negative (–) "Resonance" settings may produce no noticeable change because the resonance is already set to the minimum value.

The following parameters allow you to set the sound's "envelope". The envelope parameters affect both the volume (TVA) and the filter (TVF). The cutoff frequency will rise as the envelope rises and fall as the envelope falls.

Attack (T)
This parameter adjusts the onset of the sound. Negative values speed up the attack, so that the sound becomes more aggressive.

Parameter	Setting
Attack	-127~+127

Decay (T)
This parameter adjusts the time over which the sound's volume and cutoff frequency fall from the highest point of the attack down to the sustain level.

Parameter	Setting
Decay	-127~+127

NOTE
Percussive sounds usually have a sustain level of "0". Piano and guitar sounds are in this category. Holding the keys for a long time will have little effect on the duration of the notes you are playing, even if you select a high value here.

Release (T)
This parameter adjusts the time over which the sound will decay after the note is released until it is no longer heard. The cutoff frequency will also fall according to this setting.

Parameter	Setting
Release	-127~+127

NOTE
Some sounds already contain natural (sampled) vibrato whose depth or speed cannot be changed.

Use the following three parameters if you think the instrument in question has too much (or could use a little more) vibrato.

Vibrato Rate (T)
This parameter adjusts the speed of the pitch modulation. Positive (+) settings make the preset pitch modulation faster, and negative (–) settings make it slower.

Parameter	Setting
Vibrato Rate	-127~+127

Vibrato Depth (T)
This parameter adjusts the intensity of the pitch modulation. Positive (+) settings mean that the "wobble" becomes more prominent, while negative (–) settings make it shallower.

Parameter	Setting
Vibrato Depth	-127~+127

Vibrato Delay (T)
This parameter adjusts the time required for the vibrato effect to begin. Positive (+) settings increase the time before vibrato will begin and negative settings (–) shorten the time.

Parameter	Setting
Vibrato Delay	-127~+127

MFX
The JM-5 contains three multi-effect processors ("MFX"), one reverb processor and one chorus processor that can be used to process Standard MIDI Files.

Select "Off" for instruments that don't need to be processed by any MFX.

Parameter	Setting
MFX	Off, A, B, C

NOTE

If you select "A", "B" or "C", additional parameters can be edited (see below).

MFX Type
Allows you to select the desired MFX type, i.e. the kind of effect you need. Each MFX ("A", "B" and "C") can be assigned to as many instruments as you like. Be aware, however, that selecting a different type will affect all instruments that use this MFX processor.

The available types are:

1. Thru
2. Stereo EQ
3. Overdrive
4. Distortion
5. Phaser
6. Spectrum
7. Enhancer
8. Auto Wah
9. Rotary
10. Compressor
11. Limiter
12. Hexa-Chorus
13. Trem Chorus
14. Space-D
15. St. Chorus
16. St. Flanger
17. Step Flanger
18. St. Delay
19. Mod. Delay
20. 3 Tap Delay
21. 4 Tap Delay
22. Time Delay
23. 2 Pitch Shifter
24. FBK Pitch
25. Reverb
26. Gate Reverb
27. OD→ Chorus
28. OD→ Flanger
29. OD→ Delay
30. DST→ Chorus
31. DST→ Flanger
32. DST→ Delay
33. EH→ Chorus
34. EH→ Flanger
35. EH→ Delay
36. Chorus→ DLY
37. Flanger→ DLY
38. CHO→ Flanger
39. CHO/DLY
40. Flanger/DLY
41. CHO/Flanger
42. Isolator
43. Low Boost
44. Super Filter
45. Step Filter
46. Humanizer
47. Speaker Sim
48. Step Phaser
49. MLT Phaser
50. INF Phaser
51. Ring Modul
52. Step Ring
53. Tremolo
54. Auto Pan
55. Step Pan
56. Slicer
57. VK Rotary
58. 3D Chorus
59. 3D Flanger
60. 3D Step Flgr
61. Band Chorus
62. Band Flanger
63. Band Step Flgr
64. VS Overdrive
65. VS Distortion
66. GT Amp Simul
67. Gate
68. Long Delay
69. Serial Delay
70. MLT Tap DLY
71. Reverse DLY
72. Shuffle DLY
73. 3D Delay
74. Long Time DLY
75. Tape Echo
76. LoFi Noise
77. LoFi Comp
78. LoFi Radio
79. Telephone
80. Phonograph
81. Step Pitch
82. Sympa Reso
83. Vib-Od-Rotary
84. Center Canc

NOTE

While the "MFX" parameter is set to "Off", you cannot select a different type. In that case, the display will show the message "----------".

MFX Edit
If you also want to edit the parameters of the selected effect type, press the [CURSOR/VALUE] dial to jump to the "MFX Edit" page. You can then use the [CURSOR/VALUE] dial to edit the available parameters.

See "MFX types and parameters" on p. 93 for the parameters that are available for the selected MFX type.

NOTE

While the "MFX" parameter is set to "Off", you cannot edit the MFX parameters. In that case, the display will show the message "Please assign an MFX".

Equalizer
Activate this setting if you want to change the timbre of the selected instrument.

Parameter	Setting
Equalizer	Off, On

Edit EQ

To edit the equalizer parameters, press the [CURSOR/VALUE] dial to jump to the "Edit EQ" page. You can then use the [CURSOR/VALUE] dial to edit the available parameters:

Parameter	Setting	Explanation
Equalizer	Off, On	This parameter has the same function (and is linked to) the "Equalizer" parameter described above.
High Frequency	1500 Hz, 2000 Hz, 3000 Hz, 4000 Hz, 6000 Hz, 8000 Hz, 12000 Hz	Allows you to set the cutoff frequency of the high band (this is a shelving filter).
High Gain	-15~+15 dB	Use this parameter to set the level of the selected "High" frequency. Positive values boost (increase the volume of) that frequency, negative values cut (attenuate) it.
Mid Frequency	200~8000 Hz	Allows you to set the cutoff frequency of the middle band (this is a peaking filter).
Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	Use this parameter to specify the width of the "Mid Frequency" band that you want to boost or cut. Smaller values mean that neighboring frequencies above/below that value are also affected.
Mid Gain	-15~1+5 dB	Use this parameter to set the level of the selected "Mid Frequency". Positive values boost (increase the volume of) that frequency, negative values cut (attenuate) it.
Low Frequency	90 Hz, 150 Hz, 180 Hz, 300 Hz, 360 Hz, 600 Hz	Allows you to set the cutoff frequency of the low band (this is a shelving filter).
Low Gain	-15~+15 dB	Use this parameter to set the level of the selected "Low" frequency. Positive values boost (increase the volume of) that frequency, negative values cut (attenuate) it.

Parameter	Setting	Explanation
Undo Changes	(Press the [CURSOR/VALUE] dial)	This function allows you to cancel all settings you have made and to revert to the previously saved version.

Undo Changes

This function allows you to cancel all changes you have made and to revert to the previously saved version.

Select this parameter, then press the [CURSOR/VALUE] dial to revert to the original version.

Drum Instrument (D)

If you want to edit the settings for specific instruments of the selected Drum Set, press the [CURSOR/VALUE] dial to jump to the "Drum Instrument" page.

Select and instrument and press the [CURSOR/VALUE] dial.

You can then use the [CURSOR/VALUE] dial to edit the available parameters.

Parameter	Setting	Explanation
Instr.	All Drum Set Instruments	Select the drum instrument you want to edit.
Parameters for the selected instrument		
Mute	Off, On	Suppress (or add) the selected instrument.
Solo	Off, On	Switches off all instruments except the selected instrument.
Volume	-127~+127	Use this parameter to set the volume of the selected drum instrument.
Reverb	-127~+127	Use this parameter to set the reverb send level of the selected drum instrument. The effect itself can be changed on the "Common" page.
Chorus	-127~+127	Use this parameter to set the chorus send level of the selected drum instrument. The effect itself can be changed on the "Common" page.

Parameter	Setting	Explanation
Panpot	-127~+127	Use this parameter to set the stereo placement of the selected drum instrument. "0" means "no change", negative values shift the instrument towards the left and positive values shift it towards the right.
Velocity	-127~+127	This parameter allows you to modify the velocity range of the drum instrument in question. "0" means that the recorded values are left untouched, a negative setting reduces all velocity values by the same amount (leaving variations intact). A positive setting shifts all velocity values in a positive direction.
Pitch	-127~+127	Use this parameter to tune the selected drum instrument higher or lower. "0" means that the pitch is left unchanged.
Instr. Equalizer	Global, Instr, Off	**Global**: The drum instrument uses the equalizer settings of the Drum Set it belongs to. **Instr**: The drum instrument uses its own equalizer settings (see below). **Off**: The drum instrument is not equalized.
Edit EQ	(Press the [CURSOR/VALUE] dial)	Provides access to the EQ parameters of the currently selected drum instrument (if "Instr. Equalizer" is set to "Int"). See "Edit EQ" on p. 52 for a description of the available parameters.
Undo Changes	(Press the [CURSOR/VALUE] dial)	This function allows you to cancel the "Drum Instrument (D)" settings of the currently selected instrument and to revert to the previously saved version.

4. If you are satisfied with your changes and wish to preserve them, save your song to the USB storage device.

See "Saving your new song version" on p. 53.

NOTE

The changes you make using the procedure described above can be "burned" into the song file using the "Freeze Data" and "Save" commands. Doing so will allow you to hear those changes on any sequencer (software) you use. Changes you don't "freeze" are nevertheless stored when you save the edited song file—but only the JM-5 can read them.

Freeze Data

Before saving your "made-up" song to a USB storage device, you can (but you don't have to) "commit" your changes, thereby turning them into "regular" song data.

This may come in handy if you also want to play back your new song version on another sequencer or your computer. This operation is unnecessary for files you only want to use with the JM-5, but you need to perform it if you want to use the new settings on another sequencer.

Select this entry, then press the [CURSOR/VALUE] dial to permanently change the song file you have been editing. Next, save your song (see below).

Saving your new song version

1. If you are happy with your changes and wish to preserve them, select the "Save" parameter.

The display shows the last folder you selected on the USB memory.

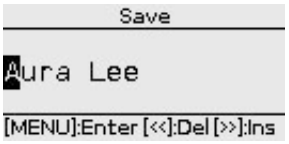
NOTE

Even songs for which you did not perform the "Freeze Data" command need to be saved using this procedure if you want to keep the changes.

2. Select another folder than the one that contains the original file if you do not want to overwrite the original version.

3. **Press the [MENU] button.**

The display changes to:



4. **Rotate the [CURSOR/VALUE] dial to select the desired character.**
5. **Press the [CURSOR/VALUE] dial to confirm your selection (the cursor changes to an underscore).**
6. **Rotate the [CURSOR/VALUE] dial to select the character position you want to change, then press the dial.**

7. **Repeat steps (6)~(4) to complete the name.**
8. **If you made a mistake, correct it using one of the procedures described in the table on page 34.**
9. **Press the [MENU] button to confirm your desire to save the song.**
   If the USB memory already contains a song file of that name, you will be asked whether you want to overwrite it:

In this case, select "YES" using the [CURSOR/VALUE] dial to replace the old file (the old file will be lost).

Otherwise, select "NO" to return to the "Save" page and enter a different name.

12. Menu parameters

The [MENU] button provides access to a great number of parameters that allow you to fine-tune the JM-5's behavior, to edit song files, etc. This chapter discusses all "Menu" parameters that haven't been dealt with so far.

General procedure

1. **Return to the main page by pressing and holding the [EXIT] button.**
2. **Press the [MENU] button.**

The display changes to:

3. **Rotate the [CURSOR/VALUE] dial to select the desired function group.**

The following function groups are discussed in this chapter:

Function group	Explanation
Internal Lyrics	Allows you to activate the display of lyrics data on the JM-5 itself. (Only for SMF and mp3 files for which there are lyrics data.)
External Lyrics	Allows you to cancel ("Off") or activate ("On") the display of song lyrics on an external screen.

Function group	Explanation
User Settings	This function group contains parameters that apply to all sections of the JM-5 (see p. 56).
SMF Cover	This function group allows you to quickly change the orchestration of a Standard MIDI File (see p. 43).
SMF Makeup Tools	This function group allows you to edit Standard MIDI Files (see p. 47).
SMF Compressor	This function group allows you to edit the JM-5's SMF compressor (see p. 44).
SMF Equalizer	This function group allows you to edit the JM-5's SMF equalizer (see p. 46).
MIDI	This function group allows you to edit the JM-5's MIDI parameters (see p. 62).
External Tone Parts	This function group allows you to set up the three "External Tone Parts" that can be controlled from an external MIDI device (see p. 59).
V-LINK	Allows you to take advantage of the JM-5's V-LINK functions (see p. 72).
Factory Reset	This command allows you to load the JM-5's factory settings (see p. 70).
Format USB Device	This command allows you to format an optional USB storage device (see p. 70).

4. **Press the [CURSOR/VALUE] dial to go to the display page where you can edit the parameters of the selected group, or to execute the selected command.**

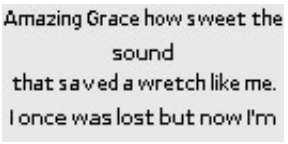
'Menu' parameters

Internal Lyrics

The JM-5's display can show the lyrics of Standard MIDI Files or mp3 songs you load. If such song files contain Lyrics data, the lyrics are always displayed on an external screen you connect to the JM-5 (see "Connecting a television set" on p. 15), unless you set the "External Lyrics" to "Off" (see above).

Sometimes, however, it may be wiser to orient the external screen in such a way that the audience can easily follow the lyrics, which may then mean that you no longer see what is displayed. If you need to see the lyrics, you can follow them on the JM-5's internal display:

1. **Load a song with lyrics data (see p. 20).**
2. **Select the "Internal Lyrics" command (see "General procedure").**
3. **Press the [CURSOR/VALUE] dial.**
   The internal display now shows the lyrics of the selected song (4 lines at a time).



4. **At the end of the song, press and hold the [EXIT] button to return to the main page.**

External Lyrics

This is, in fact, a switch that allows you to cancel ("Off") or activate ("On") the display of song lyrics on an external screen.

User Settings

The settings of the "User Settings" parameters can be saved to the JM-5's global memory. If you don't save them, your changes are lost when you switch off the JM-5.

1. **Select the "User Settings" function group (see "General procedure" on p. 55).**
2. **Rotate the [CURSOR/VALUE] dial to select the desired parameter, then press the dial.**

   NOTE
   Some entries are function subgroups that first need to be selected before you can edit their parameters.
3. **Use the [CURSOR/VALUE] dial to make the required changes.**

The "User Settings" function group contains the following parameters and subgroups:

Display Brightness
Allows you to change the brightness of the JM-5's display.

Parameter	Parameter
Display Brightness	0~25

Vocal Effect
See "Changing your voice/adding harmonies" on p. 25.

Ambience Type
See "Adding ambience to your vocal performance" on p. 23.

Space Echo
See "Adding echo to your vocal performance" on p. 23.

Mic Settings
See "Setting the microphone equalizers and phantom power" on p. 27.

Melody Mute
See "Using 'Melody Mute' and 'Center Cancel'" on p. 28.

Tuning
This parameter allows you to tune your JM-5 to acoustic instruments that cannot be tuned. The default setting is 440.0Hz.

Parameter	Parameter
Tuning	415.3~466.2 Hz

Video Settings
To edit the video parameters, you need to press the [CURSOR/VALUE] dial to open the "Video Settings" page.

The following table shows the "Video Settings" parameters.

Parameter	Value	Explanation
Mode	PAL, NTSC	Allows you to adapt the JM-5's video standard to the screen you are using.
Aspect Ratio	Full, Center	Specifies the appropriate aspect ratio in according with your TV

Lyrics Settings
To edit the Lyrics parameters, you need to press the [CURSOR/VALUE] dial to open the "Lyrics Settings" page.

The following table shows the "Video Settings" parameters.

Parameter	Value	Explanation
Background Mode	Colour, Logo, User	**Colour**: The background is empty but uses the selected color. **Logo**: The JM-5's logo is showed as background **User**: The JM-5 will use the selected .jpg picture as background. See page 33.
Background Colour	1~8	Allows you to choose the background color
Highlight Colour	1~8	Selects the highlight color
Row Displaying	2, 4	Allows you to select the number text lines the Lyrics function may use on the external screen. This parameter has no effect on the internal display.

Parameter	Value	Explanation
Chord View	Off, On	Select "On" if chord symbols of the chords played by the selected SMF song should be displayed below the lyrics. The chord symbols only appear on the external screen.

Utility

To edit the "Utility" parameters, you need to press the [CURSOR/VALUE] dial to open the "Utility" page.

The following table shows the "Utility" parameters.

Parameter	Value	Explanation
SMF QuickStart	Off, 2nd Bar, 1st Note	**Off**: Playback starts at the very beginning of the song file (which may contain a few silent bars). **2nd Bar**: Causes playback to start from measure 2 of the selected Standard MIDI File. **1st Note**: This is basically the same as the above, except that playback starts on the first note of the selected song.
Playlist Next Song	Off, On	Specifies whether or not playback of the next song in playlist should start automatically. (Pressing the [■] button during playlist playback automatically selects the next song.)
Music File Channel	1~16	Allows you to specify the MIDI channel of the song file that contains the harmony data for the "Music File" setting (see p. 26).
Rec Audio Level	-24, -18, -12, -6, + 0 dB	Allows you to set the recording level for your own performances (see p. 30). The setting of the [MASTER VOL] knob does not affect the recording level.
Rec Audio Sync	Off, On	**Off**: Choose this setting when you want to start recording before starting song playback. **On**: Choose this setting when you want to be able to start recording simultaneously with song playback. When you choose this setting, pressing the [REC] or [■] button will stop both playback of the song and the recorder.
USB Driver	Generic, Original	**Generic**: Choose this if you want to use the standard USB driver that was included with your computer. Normally, you should use this mode. **Original**: Choose this if you want to use a USB driver downloaded from the Roland website (www.roland.com).
Audio In Level	0~127	Allows you to set the input level of the signals received via the INPUT (STEREO) socket. See also page 15.
Audio In Center Canc	Off, On	Select "On" if the "Center Cancel" function (see p. 28) should also affect the signals received via the INPUT (STEREO) socket.
Audio In Transpose	Off, On	Select "On" if the "Key" function (see p. 29) should also affect the signals received via the INPUT (STEREO) socket.
Auto Power Off	Off, 240 min	This parameter allows you to cause the JM-5 to switch itself off after 240 minutes if you are not using it. The default setting is "Off", meaning that the JM-5 remains on until you press the [POWER] switch again.

Parameter	Value	Explanation
MIDI Direction	IN, OUT	This parameter allows you to select the function of the JM-5's MIDI IN/OUT socket. **In**: The JM-5 receives MIDI data from an external device. **Out**: The JM-5 transmits MIDI data to external devices.
Version Info	n.nn	Shows the version number of the JM-5's operating system.

Saving your 'User' settings

The JM-5 doesn't automatically remember the changes you make to the "User Settings" parameters: all unsaved changes are lost when you switch the JM-5 off.

1. **If you want to keep the setting changes, select the "Save User Settings" entry and press the [CURSOR/VALUE] dial.**
   The display changes to:

2. **On the display page shown above, rotate the [CURSOR/VALUE] dial to select "YES", then press the dial to save the "User Settings" changes in the JM-5's internal memory.**
   Select "NO" if you decide not to save them.

13. External Tone Parts (for MIDI module operation)

The JM-5 can also be used as a three-part multitimbral MIDI module in conjunction with an external controller (master keyboard, MIDI accordion, etc.) or sequencer (software).

There are three MIDI parts (channels) that can be used alongside the 16-part tone generator for Standard MIDI File playback (for a total of 19 MIDI parts).

The JM-5 provides several parameters for these parts that allow you to select the desired sounds (called "Tones") and several sound-related settings. These settings can be saved to one of the 10 "User" memories.

General procedure

NOTE

The External Tone Parts only sound if you set the "Load MIDi Set" parameter to "Tone Parts" (see p. 62).

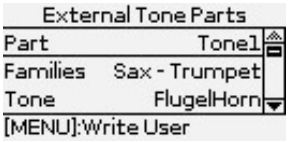
1. **Press the [MENU] button.**

The display changes to:

2. **See "Using the JM-5 as a MIDI module" on p. 62 for details about the MIDI parameters you may need to set.**
3. **Rotate the [CURSOR/VALUE] dial to select "External Tone Parts".**

4. **Press the dial.**

The display changes to:



5. **Press the [CURSOR/VALUE] dial to select "Part".**
6. **Select the part ("Tone1"~"Tone3") whose settings you want to change, then press the dial.**

NOTE

If you only want to select another "User" memory without editing its settings, rotate the [CURSOR/VALUE] dial to select the "Preset". See also "Loading the settings of an existing 'User' memory" on p. 61.

7. **Use the [CURSOR/VALUE] dial to select and set the required parameters.**

The following parameters can be set here:

Parameter	Setting	Explanation
Part	Tone1~3	Selects the part whose settings you can change.
Families	The JM-5's Tones are grouped into 16 families: guitar, bass, strings, etc.	
Tone	The number of Tones depends on the selected family. See page page 80 for a list of available Tones and Drum Sets.	
Volume	0~127	Use this parameter to set the volume of the selected part.
Reverb Send	0~127	Use this parameter to set the reverb send level of the selected part. The three MIDI parts use the reverb effect that can be set using the "Reverb Type" parameter (see p. 48).
Chorus Send	0~127	Use this parameter to set the chorus send level of the selected part. The three MIDI parts use the chorus effect that can be set using the "Chorus Type" parameter (see p. 48).

Parameter	Setting	Explanation
Panpot	L63~0~R63	Use this parameter to set the stereo placement of the selected part. "0" means "no change", "L" values shift the instrument towards the left and "R" values shift it towards the right.
Preset	User1~10	Allows you to select the "User" memory whose setting you want to use or edit.

8. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**

Operation details

Family and Tone selection

1. **Press the [MENU] button and rotate the [CURSOR/VALUE] dial to select "External Tone Parts".**
2. **Press the dial to confirm your selection.**
3. **Rotate the [CURSOR/VALUE] dial to select "Part", then press the dial.**

4. **Rotate the [CURSOR/VALUE] dial to select the part ("Tone1"~"Tone3") you want to edit, then press the dial.**
5. **Rotate the [CURSOR/VALUE] dial to select "Families", then press the dial.**

The display changes to:

This is only an example: the JM-5 may just as well display another Tone family.

6. **Rotate the dial to select the desired Tone family.**
7. **Press the [CURSOR/VALUE] dial (see the "Push: Go to tone" message).**
   The display now shows a list of all Tones that belong to the selected family.
8. **Rotate the [CURSOR/VALUE] dial to select the desired sound.**
9. **Do one of the following:**

(a) If you cannot find the Tone you are looking for, press the [CURSOR/VALUE] dial ("Push: Go to families").

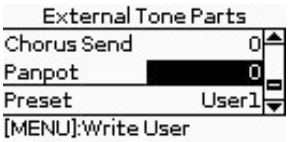
(b) If you are happy with the sound, press the [EXIT] button to return to the "External Tone Parts" page.

NOTE

You can also select the "Families" parameter to check which family the currently selected Tone belongs to.

Setting the remaining 'External Tone Parts' parameters

1. **Press the [MENU] button and rotate the [CURSOR/VALUE] dial to select "External Tone Parts".**
2. **Press the dial to confirm your selection.**
3. **Rotate the [CURSOR/VALUE] dial to select "Part", then press the dial.**
4. **Rotate the [CURSOR/VALUE] dial to select the part ("Tone1"~"Tone3") you want to edit, then press the dial.**
5. **Rotate the [CURSOR/VALUE] dial to select the desired parameter, then press the dial.**
   The display changes to:



6. **Rotate the dial to select the desired setting, then press the dial.**
7. **Repeat steps (5) and (6) to set the remaining parameters.**
8. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**

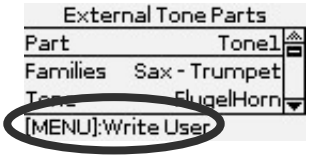
Saving your settings to a 'User' memory

After setting everything to your liking, you can decide to save your settings to one of the 10 External Tone Parts "User" memories.

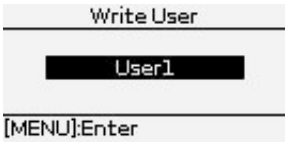
NOTE

If you switch off the JM-5 or if you select another "User" memory before saving your last changes, those settings are lost.

1. **If necessary, press the [MENU] button and use the [CURSOR/VALUE] dial to select "External Tone Parts".**
   The display changes to:



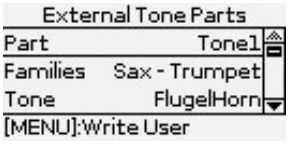
2. **Press the [MENU] button again ("[MENU]: Write User").**
   The display changes to:



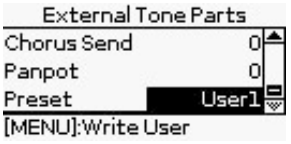
3. **Rotate the [CURSOR/VALUE] dial to select the "User" memory (1~10) where you wish to save your settings.**
4. **Press the [MENU] button to confirm your choice and to save the settings to the selected "User" memory.**
   The display briefly confirms the operation and returns to the "External Tone Parts" page.

Loading the settings of an existing 'User' memory

1. **If necessary, press the [MENU] button and use the [CURSOR/VALUE] dial to select "External Tone Parts".**
   The display changes to:



2. **Rotate the [CURSOR/VALUE] dial to select "Preset", then press the dial.**



3. **Rotate the [CURSOR/VALUE] dial to select the "User" memory you wish to use.**
4. **Press the dial to load the settings of the selected "User" memory.**
5. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**

14. Using the JM-5's MIDI functions

"MIDI" stands for "Musical Instrument Digital Interface." It is a universal standard that allows performance data to be exchanged among electronic musical instruments and computers. The JM-5 provides a MIDI IN socket so that performance data can be received from other MIDI instruments. It is also equipped with a USB MIDI port that can receive and transmit MIDI data.

About MIDI

MIDI can simultaneously transmit and receive messages on 16 channels, so that up to 16 instruments can be controlled. Nowadays, most instruments –like the JM-5– are multitimbral, which means that they can play several parts simultaneously with different sounds.

The JM-5 provides 10 "MIDI Set" memories where you can store your own settings.

1. **Press the [MENU] button → "MIDI" → "Load MIDI Set".**

2. **Use the [CURSOR/VALUE] dial to select the desired parameter or function group, then press the dial.**

If you select "Load MIDI Set", you can select one of the following memories:

MIDI Set	Meaning
Tone Parts	This factory MIDI Set activates the Tone1, Tone2 and Tone3 parts for MIDI data reception. In this case, the 16 Songs Parts cannot be controlled via MIDI.
Song Parts	This factory MIDI Set activates the 16 Song Parts for MIDI data reception and transmission. In this case, the Tone Parts cannot be controlled via MIDI.
User1~8	The JM-5 provides 8 MIDI Set "User" memories that you can use to load and save settings for various MIDI configurations you may need. See "Saving your settings to a MIDI Set" on p. 68. Note that you can also start by loading the "Tone Parts" or "Song Parts" MIDI Set, edit it and then save the result to a "User" memory.

In addition to the 3 External Tone Parts and the 16 Song Parts, the following section can also be controlled via MIDI:

Section/function	MIDI channel
Harmony effect	16 ("Keyboard" option, p. 26)

NOTE

The harmony function only transmits and receives setting changes and MIDI note messages. The microphone signals it receives and the audio signals it generates are not converted into pitch information.

Using the JM-5 as a MIDI module

To control the JM-5's sound source from an external MIDI instrument, proceed as follows.

Connections

NOTE

Before connecting the JM-5 to other devices, you must turn down the volume of all devices and turn off their power to prevent malfunctions or damage to external speakers.

1. **Set the volume of the JM-5 and of the MIDI equipment you are connecting to the minimum value.**
2. **Switch off power to the JM-5 and the MIDI equipment you are connecting.**
3. **Use a MIDI cable (commercially available) to connect the JM-5's MIDI IN/OUT socket to the MIDI OUT socket of the external MIDI instrument.**

MIDI master keyboard, MIDI-compatible piano, etc.

4. **Switch on the JM-5 and the connected MIDI equipment.**
5. **Set the "MIDI Direction" parameter to "IN" (see p. 58).**
6. **Adjust the volume of the JM-5.**

7. **If necessary, use the [BACKING] knob to set the volume of the JM-5's MIDI parts.**

NOTE

The External Tone Parts parts can also be controlled when you connect the JM-5's COMPUTER port to a USB port on your computer (see p. 69).

Setting MIDI channels on the external module for the 'Tone Parts' Preset

The JM-5 provides three parts that can be controlled from an external MIDI instrument (master keyboard, MIDI accordion, digital piano, etc.). If you select the "Tone Parts" preset (MIDI Set), those parts receive on the following MIDI channels:

External Tone Part	MIDI channel (default setting)
Tone 1	1 (can be changed)
Tone 2	2 (can be changed)
Tone 3	3 (can be changed)

NOTE

Use [MENU] button → "MIDI" → "Edit Tone Parts" if you prefer to select other MIDI channels on the JM-5.

1. **Select one of the channels shown above as the transmit channel on your MIDI controller.**

   Instruments like a MIDI accordion transmit on several channels simultaneously. To control the JM-5's parts simultaneously, select the channel numbers shown above on your external instrument.

2. **Press the [MENU] button.**

The display changes to:

3. **Rotate the [CURSOR/VALUE] dial to select "MIDI", then press the dial.**

The display changes to:

4. **Press the [CURSOR/VALUE] dial to select "Load MIDI Set".**
5. **Rotate the [CURSOR/VALUE] dial to select "Tone Parts".**

6. **Press the [CURSOR/VALUE] dial.**

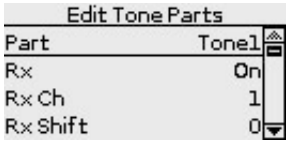
NOTE

This will also switch off MIDI reception and transmission for the JM-5's Song Parts and cancel any MIDI settings you have made for the Song Parts.

7. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**

Setting MIDI channels and other MIDI parameters for the 'Edit Tone Parts' environment

1. **Use [MENU] button → "MIDI" → "Edit Tone Parts" to go to the following display page:**



2. **Use the [CURSOR/VALUE] dial to select and set the following parameters:**

Parameter	Setting	Explanation
Part	Tone1~3	Selects the part whose settings you can change.
Rx	Off, On	This parameter allows you to specify whether (On) or not (Off) the selected part should receive (RX) MIDI data.
Rx Ch	1~16	Allows you to assign a MIDI channel to the selected part.
Rx Shift	-48~+48	This parameter allows you to transpose the received note messages before sending them to the JM-5's tone generator. The maximum possible transposition is four octaves up (+48) or down (–48). Each step represents a semitone.
Rx Limit Low	C–1~G9	These two parameters allow you to set the note range to be received. If not all note messages received on a given MIDI channel should be played by the selected External Tone Part, narrow down the range. Note: "Rx Limit Low" cannot be higher than "Rx Limit High" (and vice versa).
Rx Limit High	C–1~G9	
Rx Event	→ see below	The RX section provides a number of filters that allow you to specify whether the messages in question should be received (On) or not (Off).

■ **'Rx Event' options:**

Rx Event	Setting	Meaning
Program Change	Off, On	Program change and bank select (CC00, CC32) messages. These messages are used to select sounds and Drum Sets. "Bank Select" messages are control change messages (CC) that allow you to select sound banks (up to 128).
Pitch Bender	Off, On	Pitch Bend messages.
Modulation	Off, On	Modulation messages (CC01).
Volume	Off, On	Volume messages (CC07).
Panpot	Off, On	Pan(pot) messages (CC10).
Expression	Off, On	Expression messages (CC11).
Reverb	Off, On	Reverb Send messages (CC91).
Chorus	Off, On	Chorus Send messages (CC93).
Hold	Off, On	Hold (Sustain, Damper) messages (CC64).
Sostenuto	Off, On	Sostenuto messages (CC66).
Soft	Off, On	Soft messages (CC67).
Caf	Off, On	Channel aftertouch.
RPN	Off, On	Registered parameter number (CC100/101).
NRPN	Off, On	Non-registered parameter number (CC98/99).
System Exclusive	Off, On	SysEx messages (system exclusive).
Select All	–	Switches all event filters off or on.

3. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**

MIDI parameters for the 'Song Parts'

The 16 "Song Parts" are normally used to play back the SMF songs you select. You can, however, also use them as multitimbral parts controlled by your computer or an external sequencer.
Conversely, they can transmit the MIDI data of the SMF song you are playing back, allowing you to record them on your computer, or to use external tone generators.

Activating the 'Song Parts' section

Here is how to enable the MIDI transmission and reception of the JM-5's song parts. Note that selecting "Song Parts" for "Load MIDI Set" will deactivate the "Tone Parts". Only one of these two sections can receive (and/or transmit) MIDI data at any one time.

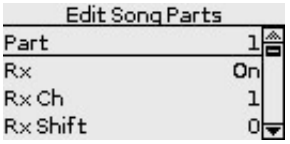
1. **Use [MENU] button → "MIDI" → "Load MIDI Set" to go to the following display page:**

2. **Press the [CURSOR/VALUE] dial, then rotate it to select "Song Parts".**

3. **Press the [CURSOR/VALUE] dial.**
   This loads the JM-5's default MIDI settings for the song parts.

Setting MIDI channels and other MIDI parameters for the 'Edit Song Parts' environment

1. **On the page shown above, select "Edit Song Parts" to go to the following display page:**



2. **Use the [CURSOR/VALUE] dial to select and set the following parameters:**

Parameter	Setting	Explanation
Part	1~16	Allows you to select the song part whose MIDI settings you want to change.
Rx	Off, On	This parameter allows you to specify whether (On) or not (Off) the selected part should receive (RX) MIDI data.
Rx Ch	1~16	Allows you to assign a MIDI channel to the selected part.
Rx Shift	-48~+48	This parameter allows you to transpose the received note messages before sending them to the JM-5's tone generator. The maximum possible transposition is four octaves up (+48) or down (–48). Each step represents a semitone.
Rx Limit Low	C–1~G9	These two parameters allow you to set the note range to be received. If not all note messages received on a given MIDI channel should be played by the selected part, narrow down the range. Note: The "Rx Limit Low" value cannot be higher than "Rx Limit High" (and vice versa).
Rx Limit High	C–1~G9	
Rx Event	→ see below	The RX section provides a number of filters that allow you to specify whether the messages in question should be received (On) or not (Off).
Tx	Off, On	Allows you to specify whether (On) or not (Off) the selected part should transmit (TX) MIDI data.
Tx Ch	1~16	Allows you to assign a MIDI transmit channel to the selected part. Note: Assigning the same channel to two or more parts is usually not a very good idea.
Tx Shift	-48~+48	This parameter allows you to transpose the note messages before they are transmitted to an external MIDI instrument or computer.

Parameter	Setting	Explanation
Tx Local	Off, On	Allows you to disconnect the part from the internal sound source (Off), or to re-establish that connection (On). If you select "Off" the song part in question is no longer controlled by the JM-5's SMF player.
Tx Event	→ see below	The TX section provides a number of filters that allow you to specify whether the messages in question should be transmitted (On) or not (Off).

■ **'Rx Event' and 'Tx Event' options:**

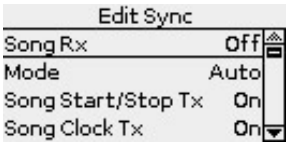
Rx/Tx Event	Setting	Meaning
Program Change	Off, On	Program change and bank select (CC00, CC32) messages. These messages are used to select sounds and Drum Sets. "Bank Select" messages are control change messages (CC) that allow you to select sound banks (up to 128).
Pitch Bender	Off, On	Pitch Bend messages.
Modulation	Off, On	Modulation messages (CC01).
Volume	Off, On	Volume messages (CC07).
Panpot	Off, On	Pan(pot) messages (CC10).
Expression	Off, On	Expression messages (CC11).
Reverb	Off, On	Reverb Send messages (CC91).
Chorus	Off, On	Chorus Send messages (CC93).
Hold	Off, On	Hold (Sustain, Damper) messages (CC64).
Sostenuto	Off, On	Sostenuto messages (CC66).
Soft	Off, On	Soft messages (CC67).
Caf	Off, On	Channel aftertouch.
RPN	Off, On	Registered parameter number (CC100/101).
NRPN	Off, On	Non-registered parameter number (CC98/99).
System Exclusive	Off, On	SysEx messages (system exclusive).
Select All	–	Switches all events off or on.

3. Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.

MIDI synchronization (Edit Sync)

There may be times when you want to use the JM-5 together alongside an external sequencer, computer, drum machine, etc. For this to work properly, you need the JM-5 to follow the tempo of the external device (or vice versa) to ensure that they start and stop at the same time and use the same tempo.

1. Use [MENU] button → "MIDI" → "Edit Sync" to go to the following display page:



2. Use the [CURSOR/VALUE] dial to select and set the required parameters.

The following parameters can be set here:

Parameter	Setting	Explanation
Song Rx	Off, On	This parameter allows you to specify whether or not the JM-5 should receive MIDI real-time messages. This allows you to synchronize external instruments or (software) sequencers with your JM-5. Note: This only works if the "MIDI Direction" parameter is set to "IN" (see p. 58).
Mode	Internal, Auto, MIDI, Remote	→ "About the 'Mode' options"
Song Start/Stop Tx	Off, On	If you activate this option, the JM-5 sends start (or stop) messages when you start (or stop) song playback.

Parameter	Setting	Explanation
Song Clock Tx	Off, On	This option means that the song sends MIDI Clock messages that tell the receiving instrument or MIDI device which tempo to choose. Note: This only works if the "MIDI Direction" parameter is set to "OUT" (see p. 58).
Song Position Tx	Off, On	If you switch this parameter on, the player of the JM-5 sends Song Position Pointer (SPP) messages that indicate the current playback position. Note: See your external sequencer's, etc., manual to find out whether it accepts Song Position Pointer messages.

■ **About the 'Mode' options**

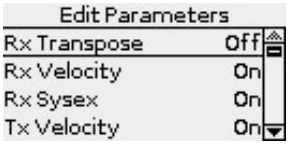
Mode	Explanation
Internal	The JM-5 uses its internal tempo (no synchronization).
Auto	This is a good setting for remote control of song playback (using a PK-5A dynamic MIDI pedal board, for example). Whenever the JM-5 receives a MIDI Start message (FA), it waits for Clock messages that specify the tempo. If those Clock messages are not received, the JM-5 starts playback using its internal tempo. If, however, Clock messages (F8) follow after the Start message, the JM-5 uses the external tempo. You can nevertheless go on using the SMF player without MIDI Start/Clock messages.
MIDI	Song playback can only be started or stopped with MIDI real-time messages (Start, Stop, Clock) received from an external clock source.
Remote	When the JM-5 receives a start message, it starts using its own tempo. When it receives a stop message, playback stops. External clock messages are ignored.

3. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**

General MIDI parameters

Below please find a number of MIDI parameters (most of the filters) that apply to the JM-5's overall MIDI behavior.

1. **Use [MENU] button → "MIDI" → "Edit Parameters" to go to the following display page:**



2. **Use the [CURSOR/VALUE] dial to select and set the required parameters.**
The following parameters can be set here:

Parameter	Setting	Explanation
Rx Transpose	Off, On	Use this parameter to specify whether note messages received via MIDI should be transposed.
Rx Velocity	On,1~127	Your JM-5 is equipped with a sound source capable of responding to velocity messages. This parameter allows you to switch the reception (RX) of velocity messages on or off. If you don't want to use "On", specify which velocity value to use instead of the continuous flux. This value will be used for all notes received via MIDI (hence "Rx").
Rx Sysex	Off, On	Use this parameter to specify whether the JM-5 should receive SysEx messages from other devices. Such messages are not standardized, so that each manufacturer can use them ad lib for temporary (or permanent) changes to the way a part behaves. They may slow down playback or yield no effect at all, which is why you have the option to switch off their reception.

Parameter	Setting	Explanation
Tx Velocity	On,1~127	The Song Parts usually transmit velocity messages when you activate them for MIDI playback (see p. 65). This parameter switches the transmission (TX) of velocity messages on or off. If you don't want to use "On", specify which velocity value to use instead of the continuous flux. This value will be used for all notes sent to MIDI (hence "Tx").
Tx Sysex	Off, On	Use this parameter to specify whether the JM-5 should send SysEx messages.
Tx Data Change	Off, On	This parameter allows you to specify how the original program changes of the songs you play back are transmitted via MIDI. The JM-5 may change sound addresses (usually CC00 and CC32 values). If you switch this parameter on, such transformations are also transmitted via MIDI. If you switch this parameter off, the original sound addresses are transmitted to the receiving device. (But the JM-5's tone generator continues to "enhance" the songs you play back.)

3. Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.

MIDI Sets

MIDI Sets are memories for MIDI settings. The JM-5 provides eight MIDI Set memories that you can use to store and load various MIDI configurations. These are called "User1"~"User8".
The "Song Parts" and "Tone Parts" settings are also MIDI Sets, however, they are preset and cannot be changed.

NOTE

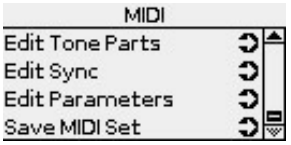
The settings of the last "User" memory you saved will be loaded each time the JM-5 is switched on.

Saving your settings to a MIDI Set

1. Set all required MIDI parameters (see above) to your liking.

2. Press the [MENU] button.

3. Rotate and press the [CURSOR/VALUE] dial to select "MIDI" → "Save MIDI Set".



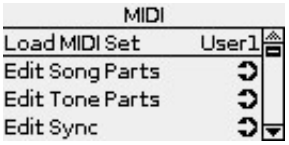
4. Press the [CURSOR/VALUE] dial.
The display changes to:

5. Rotate the [CURSOR/VALUE] dial to select the "User" memory where you want to save your MIDI settings (User1~8).

6. Press the [MENU] button to confirm your selection.
The display briefly confirms the operation and then returns to the page shown in step (3) above.

Loading a MIDI Set

1. **Press the [MENU] button → "MIDI" → "Load MIDI Set".**



2. **Press the [CURSOR/VALUE] dial to confirm your selection.**
3. **Rotate the [CURSOR/VALUE] dial to select the desired MIDI Set ("User1"~ "User8"), then press the dial.**
4. **Press and hold the [EXIT] button (its indicator stops flashing) to return to the JM-5's main page.**

NOTE

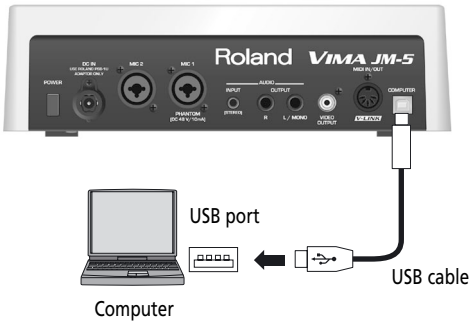
The settings of the last "User" memory you saved will be loaded each time the JM-5 is switched on.

Connecting the JM-5 to your computer

If you use a USB cable (commercially available) to connect the COMPUTER port located on the JM-5's rear panel to the USB port of your computer, you'll be able to do the following things.

- Use the JM-5 to play SMF music files played back by MIDI-compatible software.
- By transferring MIDI data between the JM-5 and your sequencer software, you'll be able to enjoy a wide range of possibilities for music production and editing.

1. **Use a standard USB cable (A→B-type connectors, commercially available) to connect the JM-5 to your computer as shown below.**



2. **Refer to the Roland website for system requirements.**
   Roland website: http://www.roland.com/

If the computer doesn't 'see' the JM-5

Normally, you don't need to install a driver in order to connect the JM-5 to your computer. However, if some problem occurs, or if the performance is poor, using the Roland original driver may solve the problem.

For details on downloading and installing the Roland original driver, refer to the Roland website:
http://www.roland.com/

Specify the USB driver you want to use, and then install the driver. For details, refer to "USB Driver" on p. 57.

■ **Caution**

- To avoid the risk of malfunction and/or damage to external speakers, always turn the volume all the way down and switch off the power on all devices before you make any connections.
- Only MIDI data can be transmitted and received via USB. Audio data for a song recorded on the JM-5 cannot be transmitted or received.
- Switch on the power to the JM-5 before you start up the MIDI application on your computer. Never turn the JM-5's power on/off while your MIDI application is running.

15. Other useful operations

Factory Reset

The following function allows you to recall the JM-5's original factory settings. This has no effect on the data stored on a USB storage device.

1. **Press the [MENU] button.**

The display changes to:

2. **Rotate the [CURSOR/VALUE] dial to select the "Factory Reset" entry, then press the [CURSOR/VALUE] dial.**

3. **Rotate the [CURSOR/VALUE] dial to select "YES", then press the dial to load the factory settings.**
   Select "NO" to return to the previous page.
   A confirmation message informs you that the JM-5 has been initialized.

Formatting a USB memory

This function allows you to format the connected USB storage device.

USB storage devices using the FAT-32 file system may not need to be formatted. We nevertheless recommend formatting all new USB storage devices with the JM-5.

IMPORTANT NOTE: Formatting a USB storage device means that all files (songs, pictures, etc.) it contains are lost. Always check the contents of the storage device before deciding to format it.

1. **Connect the a USB storage device you want to format to the external memory port on the JM-5's front panel.**
2. **Press the [MENU] button.**

The display changes to:

3. **Rotate the [CURSOR/VALUE] dial to select the "Format USB Device" entry, then press the [CURSOR/VALUE] dial.**

4. **Rotate the [CURSOR/VALUE] dial to select "YES", then press the dial to format the USB storage device.**
   A confirmation message informs you that the USB storage device has been formatted.

■ The following folders are created on the USB storage device

Name	Value
My Playlists	This folder contains all playlists you create on the JM-5. (They are not stored internally.)
My Recordings	This folder is used to store your audio recordings (see p. 30).
My Songs	You can (but you don't have to) use this folder to stored all songs you edit with the "SMF Makeup Tools" (see p. 47) or "SMF Cover" (see p. 43) functions.

NOTE

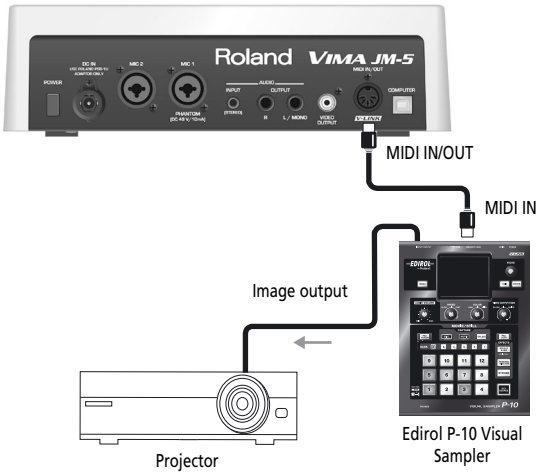
We recommend copying the contents of your USB storage device to your computer before formatting it.

16. V-LINK function

The JM-5 has a powerful new interface for realtime audio-and-video integration. V-LINK (V-LINK) is a function that allows music and images to be performed together. When V-Link compatible devices are connected via MIDI, you'll be able to easily enjoy a variety of visual effects that are linked to the expressive elements of your performance.

For example, if you use the JM-5 with the EDIROL P-10, you'll be able to use the various controls on the JM-5's front panel to switch and control images on the EDIROL P-10.

In order to enjoy V-LINK with the JM-5 and the EDIROL P-10, you'll need to make connections using a MIDI cable (sold separately).



NOTE

To prevent malfunction and speaker damage, you must minimize the volume on all equipment and turn off their power before you make any connections.

Turning V-LINK on/off

1. **Set the "MIDI Direction" parameter to "OUT" (see p. 58).**
2. **Press the [MENU] button.**
3. **Rotate the [CURSOR/VALUE] dial to select "V-LINK".**
4. **Press the dial to open the "V-LINK" page.**
5. **Use the following controls on the JM-5's front panel to control the Edirol P-10.**

Operation	V-LINK	MIDI message
Press [■]	Switch images (Clip 1)	CF 00
Press [►/II]	Switch images (Clip 2)	CF 01
Press [MELODY MUTE]	Switch images (Clip 3)	CF 02
Press [◄◄]	Switch images (Clip 4)	CF 03
Press [►►]	Switch images (Clip 5)	CF 04
Press [REC]	Switch images (Clip 6)	CF 05
Press [KEY]	Switch images (Clip 7)	CF 06
Press [TEMPO]	Switch images (Clip 8)	CF 07
Press [PLAYLIST] → [CURSOR/VALUE] dial	Control the image Image Bank Select (Bank 1~13)	BF 00 00~13
Press [NEXT] → [CURSOR/VALUE]	Control the image Color Cr Control (0~127)	BF 47 00~7F
Press [FINDER] → [CURSOR/VALUE] dial	Control the image Playback Speed (0~127)	EF 00 00~00 40~7F 7F -8192~0~8191

NOTE

See the owner's manual of the P-10 for the effects produced with these commands.

17. Troubleshooting

Symptom	Action	Page
Power does not turn on.	Is the included AC adaptor/power cord correctly connected to an AC outlet and to the JM-5? Do not use any AC adaptor or power cord other than the ones included. Doing so will cause malfunctions.	14
No sound from the JM-5.	Did you connect the JM-5 to an external amplifier or mixing console? And did you switch it on?	14
	Could the [MASTER VOL] knob be turned down? Select a higher setting.	–
	If you don't hear the song whose playback you started, did you set the [BACKING] knob to the minimum value? Select a higher setting.	–
	If the microphone connected to the [MIC1] or [MIC2] socket doesn't work, set the [MIC1] or [MIC 2] knob on the front panel to an appropriate value (not fully left).	22
	If you are using a condenser microphone connected to the [MIC1] socket, you probably forgot to activate the phantom power parameter. Note: You can't connect a condenser microphone to the [MIC2] socket.	27
	If the audio source you connected to the INPUT (STEREO) socket is inaudible, you may have set "Audio In Level" to "0".	57
The volume level of the instrument is too low when it is connected to an amplifier.	Could you be using a connection cable that contains a resistor? Use a connection cable that doesn't contain a resistor.	–
Can't hear the song that is playing.	Did you set the [BACKING] knob to the minimum value? Select a higher setting.	–
Can't hear the vocal of an audio file (mp3 or WAV). Can't hear the melody of SMF files.	If the [MELODY MUTE] button is lit, the vocal sound will be attenuated. If the [MELODY MUTE] button is lit, the melody of the MIDI files will be muted. Switch it off.	28
A "buzz" is heard from the external amplifier	Is the external amplifier or other device used with the JM-5 connected to a different AC power outlet? Connect the amplifier or other device to the same AC outlet as the JM-5.	–
Your voice sounds strange	Does the [VOCAL EFFECT] button light? Switch it off.	–
The pitch of the selected song is incorrect.	Is the "Tuning" setting appropriate? Did you transpose the song?	56 57
Can't play an audio/mp3-format song	Is the song in a format that the JM-5 is able to read?	21
No sound when a MIDI device is connected to JM-5	Are all devices powered on? Did you connect a MIDI cable and set the "MIDI Direction" correctly? Did you select the correct MIDI channel?	– 58 64
	Is the "Rx" parameter active? If not, switch it on.	64
	Did you set the [BACKING] knob to the minimum value? Select a higher setting.	–
Unable to read from/write to USB memory	Are you using an (optional) Roland USB Flash memory (M-UF series)? Reliable performance cannot be guaranteed if you use non-Roland USB memory products.	–

Symptom	Action	Page
The JM-5 displays no song list.	The song list will not appear when you press [USB MEMORY] after connecting a USB storage device that doesn't contain any songs.	–
The external screen remains dark	Did you connect it to the VIDEO OUTPUT socket?	15
	Did you switch on your TV or external screen—and did you select the correct channel? See the TV's or screen's owners manual for how to select the channel that corresponds to the video input to which the JM-5 is connected.	–
	Are you using a supported TV or monitor screen?	–
Thin horizontal lines flicker in the television screen	Thin horizontal lines may flicker on the television screen, but this is due to the television itself, and is not a malfunction of the JM-5.	–
Can't see the edge of the image on the television screen	In some cases, the edge of the image may not be visible on the television screen, but this is due to the characteristics of the television and is not a malfunction on the JM-5.	–
The slide show pictures look funny	Did you select the aspect ratio that matches the size of your external TV or monitor screen?	56
	Did you select the correct television format? Check the format required by your external TV set and select the appropriate setting on the JM-5.	56
My photos/slide shows are displayed with the first words of a song I played back a while ago	You probably set the "External Lyrics" to "On". Set it to "Off".	55
Lyric display is wrong	For some types of music files, the lyrics may sometimes be displayed incorrectly. Some words may be incorrectly shown outside the screen display area.	–
The external screen no longer displays the lyrics of the SMF and mp3 songs I play back	You probably set the "External Lyrics" to "Off". Set it back to "On".	55

18. Specifications

Display type	
Display	132 x 64 pixels, graphic monochrome LCD (backlit)
Sound Source	
Max Polyphony	128 voices (GM2/GS/XG Lite compatible)
Sounds	1,092 tones 57 Drum Sets
Multitimbral parts	16 Song Parts + 3 External Tone Parts
Master Tuning	415.3~466.2Hz
Key Control (Transpose)	–6~+5 in semitones (for audio/MIDI data & AUDIO INPUT signals)
Tempo change	20~250BPM for SMF 75%~125% for mp3 and WAV files
Part mute functions	MELODY MUTE: SMF CENTER CANCEL: mp3, WAV, AUDIO IN signals
Effects	
SMF song section	Reverb: 8 types Chorus: 8 types MFX A, B, C: 84 types Parametric EQ Multi-band compressor
MIC1 & MIC2	Ambience: 3 reverb types Space Echo
Vocal effects (MIC1)	Auto Harmony: 4 types Transformer: 9 types Music files, Keyboard
Songs	
Real-time player	SMF (Format 0/1), KAR, mp3, WAV, mp3+CDG
Song chord extractor	Automatic chord detection for SMF files
SMF Makeup Tools	Instrument-oriented editing
Playlist	Lists of favorite songs for automatic playback
Finder	Audio files, SMF, JPEG
Next	Audio files, SMF,
SMF Cover	30 types
Demo	
Demo songs plus slide show	Yes
Recording	
Media	USB Flash memory
Save format	Audio files: WAV (44.1kHz, 16-bit linear)
Video	
Slide Shows	Picture folder linked to songs (recommended resolution: 512 x 384 or 1024 x 768 pixels)
VIMA TUNES	Yes
Lyrics	SMF and mp3/WAV

Panel Controls	
Knobs	MASTER VOL, BACKING, MIC1, MIC2, AMBIENCE
Rotary encoder	Data dial with push switching function
Connectors	
Phones	1x 1/8" jack (stereo)
Audio inputs	INPUT (STEREO) (1/8" mini jack) 1x MIC 1 (XLR with switchable phantom power or 1/4") 1x MIC2 (XLR or 1/4")
USB ports	1x USB Host (data storage devices) 1x COMPUTER (reception and transmission of MIDI data)
MIDI IN/OUT socket	MIDI IN/OUT (V-LINK function)
Video output	1x composite (PAL or NTSC, selectable)
Audio outputs	OUTPUT R, L/MONO (1/4" phone sockets)
General specifications	
Power supply	9V, DC adaptor, supplied PSB-1U adaptor
Power consumption	700mA
Dimensions	273 (W) x 230 (D) x 90 (H) mm 10-3/4 (W) x 9-1/16 (D) x 3-3/16 (H) inches
Weight	1.6kg, 3 lbs 9 oz (excluding AC adaptor)
Supplied Accessories	
	Roland M-UF2G USB memory, Owner's Manual, AC adaptor, 4 screws (M5x8)
Options	
Microphone	Roland DR-series
Headphone	Roland RH-series
USB	USB flash memory (M-UF-series)
Amplifiers	KC-series
Stand	SS-PC1, PDS-10

Note: In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

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Note: Images included with this product may not be transferred or sold.

Note: These images may not be printed, recorded, placed on the Internet, or used as screen savers, even for personal use.

19. Shortcut list

Pressing and holding the following buttons allows you to directly jump to a related parameter page, which is faster than selecting the page in question via the JM-5's menu

Press and hold	Selected display page
[SPACE ECHO]	"Space Echo" page
[VOCAL EFFECT]	"Vocal Effect" page
[MELODY MUTE/CENTER CANCEL]	"Melody Mute" page

Pressing and holding the following buttons recalls the default settings of the associated parameters:

Press and hold	Parameter
[TEMPO]	Tempo of the currently selected song
[KEY]	"Key" value (page 29)

20. Song list

Number	Title	Information
1	AMAZING GRACE	(Performed by Massimiliano Coclite)
2	AULD LANG SYNE	(Performed by Roberto Lanciotti)
3	AURA LEE	(Performed by Roberto Lanciotti)
4	DID YOU EVER SEE A LESSIE	(Performed by Roberto Lanciotti)
5	GO TELL IT ON THE MOUNTAIN	(Performed by Roberto Lanciotti)
6	GREENSLEAVES	(Performed by Roberto Lanciotti)
7	GUANTANAMERA	(Performed by Roberto Lanciotti)
8	HAPPY BIRTHDAY	(Performed by Roberto Lanciotti)
9	HOUSE OF THE RISING SUN	(Performed by Roberto Lanciotti)
10	I'VE BEEN WORKING ON THE RAILROAD	(Performed by Roberto Lanciotti)
11	LA BAMBA	(Performed by Roberto Lanciotti)
12	LONDON BRIDGE IS FALLIN DOWN	(Performed by Roberto Lanciotti)
13	MICHAEL ROW YOUR BOAT ASHORE	(Performed by Roberto Lanciotti)
14	MY BONNIE	(Performed by Roberto Lanciotti)
15	O CHRISTMAS TREE	(Performed by Roberto Lanciotti)
16	OH SUSANNA	(Performed by Roberto Lanciotti)
17	SCARBOROUGH FAIR	(Performed by Roberto Lanciotti)
18	SILENT NIGHT	(Performed by Roberto Lanciotti)
19	SWING LOW SWEET CHARIOT	(Performed by Roberto Lanciotti)
20	THE CHERRY TREE CAROL	(Performed by Roberto Lanciotti)
21	THE FARMER IN THE DELL	(Performed by Roberto Lanciotti)
22	THE MUFFIN MAN	(Performed by Roberto Lanciotti)
23	TWINKLE TWINKLE LITTLE STAR	(Performed by Roberto Lanciotti)
24	WHEN THE SAINTS GO MARCHING IN	(Performed by Roberto Lanciotti)
25	WHITE CHRISTMAS	(Performed by Roberto Lanciotti)

21. MIDI Implementation Chart

[VIMA] Date: January 2011
Model: JM-5 Version: 1.00

	Function...	Transmitted	Recognized	Remarks
Basic	Default	1~16	1~16	16 parts (SMF songs)
Channel	Changed	1~16, Off	1~16, Off	3 parts (External In)
Mode	Default	Mode 3	Mode 3	
	Message	Mode 3, 4 (M=1)	Mode 3, 4 (M=1)	*2
	Altered	*****		
Note		0~127	0~127	
Number	True Voice	*****	0~127	
Velocity	Note ON	O *1	O *1	
	Note OFF	X	X	
After	Key's	O	O *1	
Touch	Ch's	O	O *1	
Pitch Bend		O *1	O *1	
Control Change	0,32	O *1	O *1	Bank Select
	1	O *1	O *1	Modulation
	5	O	O	Portamento Time
	6, 38	O	O *1	Data Entry
	7	O *1	O *1	Volume
	10	O *1	O *1	Panpot
	11	O *1	O *1	Expression
	64	O *1	O *1	Hold 1
	65	O	O *1	Portamento
	66	O *1	O *1	Sostenuto
	67	O *1	O *1	Soft
	69	O	O	Hold 2
	71	O	O	Resonance
	72	O	O	Realease Time
	73	O	O	Attack Time
	74	O	O	Cutoff
	75	O	O	Decay Time
	76	O	O	Vibrato Rate
	77	O	O	Vibrato Depth
	78	O	O	Vibrato Delay
	84	O	O	Portamento Control
	91	O *1	O (Reverb) *1	Effect 1 Depth
	93	O *1	O (Chorus) *1	Effect 3 Depth
	98, 99	O *1	O *1	NRPN LSB, MSB
	100, 101	O *1	O *1	RPN LSB, MSB
Program		O *1	O *1	
Change	True #	*****	0~127	Program Number 1~128
System Exclusive		O *1	O *1	
System	Song Position Pointer	O *1	O	
Common	Song Sel	X	X	
	Tune	X	X	
System	Clock	O *1	O *1	
Real Time	Commands	O *1	O *1	
Aux	All Sounds Off	X	O (120, 126, 127)	
Messages	Reset All Controllers	X	O (121)	
	Local On/Off	X	O (only for song parts)	
	All Notes Off	X	O (123-125)	
	Active Sensing	O	O	
	Reset	X	X	
Notes		*1 O X is selectable *2 Recognized as M= 1 even if M≠ 1		

Mode 1: OMNI ON, POLY
Mode 2: OMNI ON, MONO
Mode 3: OMNI OFF, POLY
Mode 4: OMNI OFF, MONO
O: Yes
X: No

22. Tone List

Piano	CC00	CC32	PC
NaturalPiano	0	4	1
SuperiorPian	47	4	1
ClassicPiano	0	4	2
UprightPiano	1	4	1
Brite Piano	1	4	2
Piano+String	24	4	1
Piano+Choir	26	4	1
StackedPiano	47	4	3
Honky-tonk 1	0	4	4
RD Piano 1	0	4	3
Rock Piano	2	4	2
Dance Piano	80	4	2
Mild Piano	2	4	1
MonoAcPiano	45	4	1
European Pf	16	4	1
RD Piano 1 w	8	4	3
Honky-tonk 2	8	4	4
EP - Keyboard	CC00	CC32	PC
Vintage EP1	81	4	5
Pro Stage	47	4	5
Phase EP	44	4	5
Vintage EP2	82	4	5
Stage	80	4	5
FM EPiano1	80	4	6
FM EPiano2	81	4	6
Wurly	24	4	5
Clav. 1	1	4	8
Harpsichord1	2	4	7
Tremolo EP	46	4	5
MIDI EPiano1	1	4	3
MIDI EPiano2	2	4	3
FM+SA EP	16	4	5
St.FM EP	16	4	6
EP Legend	10	4	6
EP Phase	32	4	6
Dist E.Piano	17	4	5
Phase Clav	17	4	8
JP8000 Clav.	38	4	8
St.Soft EP	8	4	5
E.Piano 1	0	4	5
E.Piano 2	0	4	6
Hard FM EP	24	4	6
Cho. E.Piano	9	4	5
EP Heaven	44	4	89
Reso Clav.	16	4	8
Coupled Hps.	8	4	7
Clav. 2	0	4	8
Analog Clav.	32	4	8
Harpsichord2	24	4	7
Harpsi.w	0	4	7
Chr Perc	CC00	CC32	PC
Vibraphone	0	4	12
Marimba w	0	4	13
Glockenspiel	0	4	10
Celesta	0	4	9
Pop Celesta	1	4	9
Music Box 1	0	4	11
Carillon	9	4	15
Pop Vibe.	1	4	12
Tubular-bell	0	4	15
Vibraphone w	8	4	12
Music Box 2	1	4	11
Xylophone w	0	4	14
Church Bell	8	4	15
Balafon	17	4	13

Organ	CC00	CC32	PC
B3 Sermon	89	4	18
Blues Perc	80	4	18
All Skate!	82	4	18
R&B B3	83	4	18
HeavyTraffic	81	4	19
Organ 3	0	4	19
Stevie's B3	82	4	17
Church Org.1	0	4	20
Organ Flute	24	4	20
Theater Org.	33	4	20
Dyno Rotary	82	4	19
Hang Twice	85	4	18
Felix Ballad	84	4	18
XV Organ	80	4	19
B3 Has Come	88	4	18
Org Jazz1 /9	83	4	19
Church Org.2	8	4	20
Reed Organ	0	4	21
Head Up B3	80	4	17
Organ 1	0	4	17
Ful Organ 1	2	4	17
60's Organ	16	4	17
Jazz Organ 1	1	4	18
Perc.Organ 1	32	4	18
Rock Organ	17	4	19
Rotary Org.S	16	4	19
Rotary Org.F	24	4	19
Church Org.3	16	4	20
Rotary Organ	8	4	19
L-Organ	47	4	19
Organ 2	0	4	18
Ful Organ 2	3	4	17
Jazz Organ 2	3	4	18
Perc.Organ 2	33	4	18
Chorus Or	8	4	18
Mellow 1	83	4	17
Cheese Organ	24	4	17
JazzOrgan RD	81	4	18
Ful Organ 3	4	4	17
Jazz Organ 3	4	4	18
Perc.Organ 3	34	4	18
Fire Perc	86	4	18
Organ 101	1	4	17
Br.Ballad B3	81	4	17
JX8 Organ	30	4	17
D-50 Organ	25	4	17
VS Organ	28	4	17
Trem. Organ	8	4	17
E.Organ 16+2	2	4	18
Organ Bass	40	4	17
Ful Organ 4	10	4	17
Jazz Organ 4	5	4	18
Puff Organ	16	4	21
Hybrid Organ	27	4	17
Full Perc	87	4	18
70's E.Organ	32	4	17
Farf Organ	19	4	17
Orient.Org.1	116	4	17
Orient.Org.2	116	4	21
Accordion	CC00	CC32	PC
Acc. Master	50	4	22
Acc. Classic	51	4	22
Italian Folk	52	4	22
Fr. Musette	53	4	22
Steierische	54	4	22
Bandoneon 1	8	4	24
Bandoneon 2	0	4	24
Bandoneon 3	52	4	24
Mellow Harm	0	4	23
Hand Harm.	51	4	23

Accordion It	8	4	22
Accordion Fr	0	4	22
B.Harp Basic	8	4	23
B.Harp Suppl	9	4	23
Soft Accord	25	4	22
Accordion 1	64	4	22
Accordion 2	16	4	22
JV.Accordion	69	4	22
OrientalAcc1	65	4	22
OrientalAcc2	66	4	22
OrientalAcc3	67	4	22
OrientalAcc4	68	4	22
A.Guitar	CC00	CC32	PC
Nylon Gt.1	64	4	25
Nylon-str.Gt	0	4	25
Steel.Gt2	64	4	26
Steel.Gt4	69	4	26
Ac.Guitar1	48	4	26
2_Guitars	66	4	26
12 Strings	8	4	26
Nylon+Steel2	67	4	26
MandolinTrem	18	4	26
Banjo	0	4	106
Nylon Gt.2	32	4	25
Nylon+Steel1	9	4	26
Steel.Gt5	70	4	26
Ac.Guitar2	49	4	26
Steel.Gt1	52	4	26
Steel.Gt3	65	4	26
12Stringsoft	7	4	26
Requint Gt.2	52	4	25
Mandolin Tr.	18	2	26
Muted Banjo	1	4	106
Nylon Gt.o	16	4	25
Ac.Gtr.Hrm	51	4	26
Steel + Body	33	4	26
Atmosphere	0	4	100
HollowReleas	4	4	100
Nylon Harp	2	4	100
Steel.Gt6	32	4	26
Ac.Guitar3	50	4	26
Mandolin	16	4	26
Fl.Gtr 1	48	4	25
Fl.Gtr 2	49	4	25
Fl.GtrRoll	51	4	25
Steel-str.Gt	0	4	26
Requint Gt.1	40	4	25
Nylon+Steel3	68	4	26
Ukulele	8	4	25
Velo Harmnix	24	4	25
Gt.FretNoise	0	4	121
Atk Steel Gt	10	4	26
E.Guitar - Bass	CC00	CC32	PC
Clean Solid	69	4	28
Warm Drive	65	4	30
Distortion	64	4	31
Clean Mute	67	4	29
Jazz Guitar1	62	4	27
Ulti Ac Bass	0	4	33
Picked Bass1	0	4	35
Fingered Bs1	0	4	34
Nu Slap Bs	0	4	37
RubberBass 2	16	4	40
Clean Elect.	64	4	28
Clean El Oct	65	4	28
Dynamic Mute	66	4	28
JC ChrusGt	9	4	28
Jazz Guitar2	80	4	27
XV Ac.Bass	9	4	33
Fretless Bs1	0	4	36
Mute Bass	84	4	33

Finger Slap	1	4	34
Slap Pop	1	4	37
Overdrive3	64	4	30
Distort Gt1	3	4	31
Dist. Mute	64	4	29
Muted Over	68	4	29
PedalSteel	8	4	27
5String Bs	83	4	33
Picked Bass2	1	4	35
Slap Bass 1	0	4	38
XV Bass+Ride	16	4	33
Drum'n'Bass	82	4	39
Distort Gt2	1	4	31
LP OverDrv	9	4	30
RockRhythm2	25	4	31
Muted Gt. 2	65	4	29
Jazz Gt.	0	4	27
Picked Bass3	2	4	35
Slap Bass 2	1	4	38
Jazz Bass 1	2	4	34
Synth Bass 2	0	4	40
Picked Bass4	3	4	35
RockRhythm1	24	4	31
Muted Gt. 3	66	4	29
TC MutedGt	2	4	29
TC Clean	19	4	28
JGuitar Scat	81	4	27
Reso Slap	8	4	37
Bass Invader	80	4	40
Jazz Bass 2	3	4	34
Rock Bass	4	4	34
Fretless Bs2	1	4	36
Power Gt.2	65	4	31
Power Gt.3	66	4	31
Distort Gt3	0	4	31
Dist Rtm GTR	26	4	31
Muted Gt. 1	0	4	29
TB Saw Bass	81	4	39
MG Bass	4	4	40
Modular Bass	2	4	40
Seq Bass 1	3	4	40
SynthBass201	1	4	40
LP HalfDrv2	11	4	30
Mid Tone GTR	23	4	28
Clean Gt.	0	4	28
JC CleanGt	4	4	28
Mellow Gt.	1	4	27
RubberBass 1	13	4	40
u/i/e/o V/Sw	84	4	40
VocoBass	83	4	40
Heart Bass	5	4	34
Raver Bass 1	81	4	40
LP RearAtk	22	4	28
Clean Half	1	4	28
OpenHard 1	2	4	28
OpenHard 2	3	4	28
TC RearPk	17	4	28
Guitaron	48	4	33
Raver Bass 2	82	4	40
MG Blip Bs	7	4	40
SH101 Bass 1	17	4	40
JP-8 Bass	4	4	39
Chorus Gt	8	4	28
TC Cln ff	18	4	28
AtkCleanGt	5	4	28
Funk Pop	8	4	29
LP Rear	21	4	28
Chung Ruan	24	4	28
WireStr Bass	11	4	40
MG Oct Bass2	6	4	40
SH101 Bass 2	18	4	40
Smooth Bass	19	4	40
Overdrv Gt	0	4	30
Overdrive1	1	4	30
Overdrive2	2	4	30
More Drive	3	4	30

Dist.Fast	4	4	31
AcBass 1	45	4	33
AcBass 2	46	4	33
AcBass 3	47	4	33
SH101 Bass 3	20	4	40
RND Bass	26	4	40
Dazed Gtr	2	4	31
Attack Dist	5	4	31
LP Rear Pk	20	4	28
LP HalfDrv	10	4	30
LP Chorus	12	4	30
Rockabilly	1	4	33
AcousticBs	49	4	33
Bubble Bass	28	4	40
Sync Bass 1	24	4	40
Spike Bass	21	4	40
Power Gt.1	16	4	31
TCFrntPick	16	4	28
Funk Gt.	16	4	29
Dance Dst.Gt	11	4	85
Pulse Mix Bs	31	4	40
Seq Bass 2	33	4	40
3rd Bass	34	4	40
MG Oct Bass1	35	4	40
Mild Bass	37	4	40
Gt.Feedback2	9	4	32
Gt.Feedback1	8	4	31
Gt.Harmonics	0	4	32
Ac.Gt.Harmnx	16	4	32
Gt.Cut Noise	1	4	121
MG LightBass	39	4	40
DistSynBass	40	4	40
DistEnvBass	38	4	40
LightSynBass	45	4	40
PopSynthBass	46	4	40
Pick Scrape	6	4	121
Sync Bass 2	30	4	40
SH101 Bass 4	47	4	40
TeeBee V/Sw	44	4	39
Odd Bass	15	4	40
303Sqr.Rev	43	4	39
X Wire Bass	10	4	40
Bassic Needs	83	4	39
Fretless Bs3	2	4	36
Beef FM Bass	8	4	40
Muted PickBs	8	4	35
Wood+FlessBs	8	4	36
Fretless Bs4	3	4	36
Double Pick	4	4	35
Mr.Smooth	5	4	36
String Slap	2	4	121
E.Bass Harm.	24	4	32
SynthBass101	1	4	39
Synth Bass 1	0	4	39
JP-4 Bass	3	4	39
CS Bass	2	4	39
Tekno Bass	10	4	39
Reso SH Bass	16	4	39
Rubber303 Bs	14	4	39
TB303 Bass	9	4	39
TB303 DistBs	18	4	39
TB303 Sqr Bs	17	4	39
Clavi Bass	19	4	39
Jungle Bass	21	4	39
Square Bass	22	4	39
Wild Ac.Bs	8	4	33
Baby Bass	48	4	34
AttackFinger	6	4	34
Arpeggio Bs	24	4	39
AtkSineBass	34	4	39
OB sine Bass	35	4	39
303SqDistBs	41	4	39
Echo SynBass	7	4	103
Bass Slide1	5	4	121
Bass Slide2	47	4	121
DoubleSlide	48	4	121

Strings	CC00	CC32	PC
St.Strings 1	16	4	49
St.Slow Str1	10	4	50
JP8 Strings1	81	4	51
Warm Strings	9	4	50
Bright Str.3	5	4	49
Orchestra 1	9	4	49
X Violin	80	4	41
Harp	0	4	47
St.Pizzicato	3	4	46
OrchestraHit	0	4	56
SlowStrings1	0	4	50
Strings	0	4	49
Syn.Strings1	0	4	51
Syn.Strings2	0	4	52
Contrabass	0	4	44
Folk Violin	116	4	41
Viola	0	4	42
Timpani	0	4	48
St.Strings 2	17	4	49
Oct Strings1	32	4	49
St.Slow Str2	11	4	50
SlowStrings2	1	4	50
Syn.Strings5	10	4	51
ChamberStr	2	4	49
Str.+Flute	13	4	49
Strings+Horn	12	4	49
FolkViolinVb	116	4	40
St.Strings 3	18	4	49
SlowStrings3	2	4	50
JP8 Strings2	80	4	51
Air Strings	8	4	52
Orchestra 2	8	4	49
Slow Violin	8	4	41
Slow Tremolo	8	4	45
Cello	0	4	43
ContraBsSect	34	4	49
Cello sect.	3	4	49
Syn.Strings4	9	4	51
StraightStr.	10	4	52
JP Saw Str.	4	4	52
Orchestra 3	20	4	49
Violin Atk	0	4	41
Trem Str.St.	0	4	45
PizzicatoStr	0	4	46
Tremolo Orch	10	4	49
Oct Strings2	33	4	49
FilteredOrch	3	4	52
S.Str+Choir	12	4	50
JP Strings	3	4	51
OB Strings	1	4	51
Bright Str.2	4	4	49
Syn.Strings3	8	4	51
Bright Str.1	1	4	49
Harp&Strings	1	4	47
SuspenseStr	9	4	45
Legato Str.	8	4	50
Velo Strings	24	4	49
Viola Attack	1	4	42
Cello Attack	1	4	43
Strings Oct	116	4	11
Vcs&Cbs Pizz	1	4	46
Solo Pizz.	8	4	46
Solo Spic.	16	4	46
StringsSpic.	17	4	46
Harp St.	2	4	47
Uillean Harp	8	4	47
Synth Harp	16	4	47
Choir Str.	11	4	49
Mild Strings	7	4	49
60s Strings	40	4	49
High Strings	16	4	51
Tron Strings	24	4	51
Noiz Strings	25	4	51
JUNO Strings	2	4	52
DistStrings	6	4	52

Vocal	CC00	CC32	PC
Warm Voices	82	4	95
Syn Vox Pad	0	4	55
Fem Mm Srt	82	4	54
Rich Choir 2	81	4	53
St.ChoirAahs	8	4	53
Vox Pad	83	4	95
Real Choir	80	4	53
Jazz Scat	6	4	54
Choir Aahs	0	4	53
Melted Chr	33	4	53
ChorusLahs	24	4	53
ChorusAahs	32	4	53
Harpvox	3	4	100
Voice Oohs	48	4	54
Choir Hahs	16	4	53
LFO Vox	9	4	86
St.BoysChoir	13	4	53
VoiceAah Mal	36	4	54
Itopia	3	4	92
Humming	40	4	54
Silent Night	9	4	55
Melted Choir	9	4	53
Holy Voices	12	4	92
Solo Vox	0	4	86
JzVoiceBap	10	4	54
JzVoiceDow	11	4	54
Voice Dahs	8	4	54
JzVox Thum	12	4	54
JzVoiceDat	9	4	54
Vox Sweep	2	4	95
SynVox	1	4	55
SC Heaven	2	4	92
JX8P Vox	18	4	55
Syn.Voice 1	8	4	55
Syn.Voice 2	10	4	55
Tears Voices	12	4	95
VP330 Choir	16	4	55
Chorus Oohs2	3	4	54
Space Voice	0	4	92
Heaven II	1	4	92
Water Space	4	4	92
Cosmic Voice	8	4	92
Vocorderman	11	4	92
Horror Pad	8	4	95
Breath&Rise	11	4	95
Rich Choir 1	14	4	53
Chorus Oohs1	0	4	54
VoiceLah Fem	16	4	54
ChorusLahFem	17	4	54
ChorusLuhFem	19	4	54
VoiceUuh Fem	23	4	54
Fem Lah&Lan	24	4	54
Brass	**CC00**	**CC32**	**PC**
Ac.Brass	80	4	62
Brass Sforz.	81	4	62
2Tps+Tb	43	4	62
Henry IV	47	4	64
Tuba 1	0	4	59
French Horns	0	4	61
Jump Brass	5	4	63
Africa Brass	80	4	64
St.Orch Brs1	36	4	62
Octave Brass	24	4	62
FatPop Brass	14	4	62
Trombone 1	0	4	58
Tuba 2	1	4	59
Tuba + Horn	8	4	59
Warm Brass	2	4	64
MG Brass fst	81	4	64
MKS Brass	4	4	63
St. Brass ff	3	4	62
Horn + Orche	2	4	61
Tuba 3	47	4	59
Fr.Horn	1	4	61
Trombone 2	1	4	58
JUNO Brass	1	4	63
Fat SynBrass	5	4	64
Poly Brass	80	4	63
PowerBrass	47	4	62
Bright Tb	4	4	58
V Twin bones	2	4	58
Polka Tuba	46	4	59
Bs.Trombone	8	4	58
Synth Brass	0	4	63
Dual Horns	9	4	61
Pro Brass	8	4	63
Orch Brass	33	4	62
St.Orch Brs2	38	4	62
Brass + Reed	25	4	62
Folk Tuba	45	4	59
P5 Brass	0	4	64
Brass 1	0	4	62
2Tps+Tb+Sax	44	4	62
Brass 2	8	4	62
Brass 3	9	4	62
Fat + Reed	26	4	62
F.Horn Rip	24	4	61
Brass sfz 1	10	4	62
OB Brass	9	4	64
Sync Brass	4	4	64
Oct SynBrass	16	4	63
Euphonium	16	4	58
Bones Sect.	2	4	62
Quad Brass2	5	4	62
SH-5 Brass	3	4	63
Brass sfz 2	12	4	62
Brass Fall	16	4	62
Brass Oct	116	4	42
Wide FreHrns	3	4	61
F.Hrn Slow	8	4	61
Velo Brass 1	16	4	64
SoaringHorns	46	4	64
Quad Brass1	4	4	62
DeepSynBrass	6	4	64
Sax - Trumpet	**CC00**	**CC32**	**PC**
Tenor Sax	0	4	67
Baritone Sax	0	4	68
Bari & Tenor	8	4	68
MuteTrumpet1	0	4	60
FlugelHorn	8	4	57
Trumpet	0	4	57
BlowAltoVib	50	4	66
AltoSax Soft	46	4	66
Muted Tp 1	48	4	60
Romantc Tp	49	4	57
Trumpet2	48	4	57
Rom/Mar Tp	51	4	57
FolkTrumpVb	18	2	57
Soprano Exp.	8	4	65
Blowed Tenor	46	4	67
St.Tenor Sax	9	4	67
MariachiTp	50	4	57
Bright Tp.	24	4	57
Grow Sax	9	4	66
Folk A.Sax	17	2	66
Soprano Sax2	0	4	65
Folk A.SaxVb	18	2	66
Latin Tenor	44	4	67
Muted Tp 2	49	4	60
Tp Mar/Shk	52	4	57
Trumpet & Nz	4	4	57
MuteTrumpet2	2	4	60
TrumpetFall2	17	4	62
Super Tenor	47	4	67
Oriental SAX	116	4	66
AltoSax Exp.	8	4	66
TenorSaxFst	50	4	67
BreathyTn.	8	4	67
Warm Tp.1	25	4	57
Dark Trumpet	3	4	57
Tp Shake	53	4	57
Atk Trumpet	47	4	57
FolkTrumpet	1	4	57
FolkAlto	51	4	66
Tenor Sax 1	45	4	67
Sax Section	17	4	66
AltoSax + Tp	16	4	66
Alto Sax	0	4	66
MuteTrumpet3	3	4	60
Muted Horns	8	4	60
Twin Tp.	27	4	57
Warm Tp.2	26	4	57
Wind	**CC00**	**CC32**	**PC**
FluteVibAtk	52	4	74
JazzClariVib	50	4	72
FolkClarinet	51	4	72
Oboe	0	4	69
Piccolo 1	0	4	73
Bassoon	0	4	71
BottleBlow1	0	4	77
Whistle 1	0	4	79
Pan Flute1	0	4	76
English Horn	0	4	70
FlTraverso	3	4	74
SoftClarinet	52	4	72
FolkClarinVb	17	2	72
Oboe Exp.	8	4	69
BottleBlow2	47	4	77
Bs Clarinet	8	4	72
Whistle 2	1	4	79
Pan Flute2	47	4	76
Multi Wind	16	4	72
Flute Exp	2	4	74
Clarinet	0	4	72
Folk Clarin	16	2	72
Quad Wind	17	4	72
Recorder	0	4	75
The Bottle	46	4	77
Ocarina	0	4	80
TinWhistle2	46	4	76
Pipe & Reed	9	4	74
Flute 1	0	4	74
Flute 2	1	4	74
Tron Flute	51	4	74
Synth	**CC00**	**CC32**	**PC**
Big Lead	4	4	82
Unison Saws	46	4	91
OB Saw	26	4	82
LM Square	6	4	81
CC Solo	4	4	81
Poly Saws	83	4	91
80's PolySyn	1	4	91
Super Poly	4	4	91
D-50 Fantasy	43	4	89
Twin Sine	11	4	81
Dual Sqr&Saw	23	4	81
Velo Lead	5	4	82
MG Square	1	4	81
Hollow Mini	2	4	81
Polysynth 1	0	4	91
X-hale	81	4	95
Phenomena	80	4	87
Poly Key	82	4	91
Saw Wave	0	4	82
Unison SawLd	7	4	84
MG SawLead 2	39	4	82
TB Lead	1	4	84
Fat GR Lead	3	4	85
Brightness	0	4	101
Bell Heaven	3	4	89
New Age Pad	2	4	89
Syn.Calliope	0	4	83
OB Stab	2	4	101
Big & Raw	1	4	88
P5 Sync Lead	16	4	85
Acid Guitar	10	4	85
D-50 Fat Saw	11	4	82

Euro-Dance 2	81	4	88
Polysynth 2	2	4	91
LowBirds Pad	8	4	102
D-50 Retour	5	4	101
Fantasia 1	0	4	89
OB DoubleSaw	12	4	82
Rock Lead	18	4	85
Techno Saw	47	4	82
JP DoubleSaw	13	4	82
JP SuperSaw	15	4	82
CS Saw	30	4	82
MG Saw Lead	31	4	82
Ice Rain	0	4	97
Oct Saw Lead	35	4	82
Chiffer Lead	0	4	84
LM Pure Lead	8	4	83
Big Blue	29	4	102
Vibra Bells	8	4	99
JUNO Rave	3	4	88
LA Brass Ld	22	4	85
Big Fives	1	4	87
Goblin	0	4	102
SequenceSaw3	46	4	82
Octave Stack	9	4	91
Euro-Dance 1	80	4	88
Crispy Lead	84	4	88
LM Blow Lead	9	4	83
Xpressive	83	4	88
7th Atmos.	17	4	104
Galaxy Way	18	4	104
Rising OSC.	19	4	104
Noise Peaker	6	4	92
Raver Blade	82	4	88
Etherality	5	4	104
Reso Stack	10	4	91
Techno Stack	11	4	91
TwinOct.Rave	13	4	91
Happy Synth	15	4	91
ForwardSweep	16	4	91
ReverseSweep	17	4	91
Minor Rave	24	4	91
SuperSaws	47	4	91
Bamboo Hit	7	4	92
AuhAuh	10	4	92
Square Wave	0	4	81
Mellow FM	3	4	81
Shmoog	5	4	81
2600 Sine	8	4	81
KG Lead	10	4	81
OB Square	17	4	81
JP-8 Square	18	4	81
Dist Square	19	4	81
303SquarDst1	20	4	81
303SquarDst2	21	4	81
Pulse Lead	24	4	81
JP8 PulseLd1	26	4	81
JP8 PulseLd2	28	4	81
260RingLead	29	4	81
303DistLead	30	4	81
JP8000DistLd	31	4	81
HipHop Sq	33	4	81
Flux Pulse	35	4	81
Pulse Saw	2	4	82
GR-300 Saw	6	4	82
LA Saw	7	4	82
Doctor Solo	8	4	82
Fat Saw Lead	9	4	82
Saw Impulse	5	4	97
Strange Str.	6	4	97
FatSawLead	14	4	82
Waspy Synth	16	4	82
PM Lead	17	4	82
MG Saw	24	4	82
Crystal	0	4	99
Syn Mallet	1	4	99
P5 Saw Lead	33	4	82
Soft Crystal	2	4	99
Round Glock	3	4	99
Loud Glock	4	4	99
Natural Lead	36	4	82
Synchronized	38	4	82
SequenceSaw1	40	4	82
Digi Bells	9	4	99
SequenceSaw2	41	4	82
Reso Saw	42	4	82
Cheese Saw	43	4	82
Blow Bell	12	4	99
Choral Bells	16	4	99
Air Bells	17	4	99
Bell Harp	18	4	99
Gamelimba	19	4	99
Bottom Bell	23	4	99
Warm Atmos	1	4	100
FatSolo Lead	4	4	84
ForcefulLead	5	4	84
Oct.UnisonLd	6	4	84
Mad Lead	8	4	84
Vaporish	80	4	91
CrowdingLead	9	4	84
Space Org X	81	4	87
Double Sqr.	10	4	84
Chord maj7th	82	4	87
PureFlatLead	47	4	84
Short Chord	83	4	87
Charang	0	4	85
Wire Lead	1	4	85
ShortCircuit	80	4	56
FB.Charang	2	4	85
Brass Star	3	4	101
Mellow GR Ld	5	4	85
Org Bell	8	4	101
Goblinson	1	4	102
50's Sci-Fi	2	4	102
Abduction	3	4	102
Fat SyncLead	17	4	85
Auhbient	4	4	102
5th DecaSync	19	4	85
LFO Pad	5	4	102
Random Str	6	4	102
Dirty Sync	20	4	85
DualSyncLead	21	4	85
UFO FX	14	4	102
5th Saw Wave	0	4	87
FallinInsect	18	4	102
LFO Oct.Rave	19	4	102
5th Lead	2	4	87
Just Before	20	4	102
RandomEnding	22	4	102
JP 5th Saw	5	4	87
Random Sine	23	4	102
JP8000 5thFB	6	4	87
Noise&SawHit	25	4	102
Bass & Lead	0	4	88
Fat & Perky	2	4	88
DancingDrill	27	4	102
Dirty Stack	28	4	102
Static Hit	30	4	102
Delayed Lead	7	4	88
Acid Copter	32	4	102
Fantasia 2	1	4	89
Fantasia 3	4	4	89
Fantasia 4	5	4	89
260HarmPad	7	4	89
Music Bell	10	4	99
Pad - Ethnic	**CC00**	**CC32**	**PC**
Pad With	81	4	90
LA Warm Pad	82	4	90
Attack! Pad	83	4	90
Human Pad	10	4	90
OB Soft Pad	6	4	90
Sitar 1	0	4	105
NAY 1	8	4	73
Shakuhachi	0	4	78
Oud 1	24	4	106
Kawala 1	8	4	76
JP8 Hollow	44	4	92
JP Soft Pad	13	4	90
Warm Squ Pad	46	4	92
Warm JP STR	47	4	90
Square Pad	45	4	92
Tambra	8	4	105
Rabab	8	4	106
Shamisen	0	4	107
Kalimba	0	4	109
Sanza	8	4	109
Stacked Pad	45	4	90
Warm Pad	0	4	90
Thick Matrix	1	4	90
Big Panner	4	4	103
Reso Panner	5	4	103
Bagpipe	0	4	110
Gopichant	16	4	106
UillnPipe Or	11	4	110
Fiddle	0	4	111
Pungi	8	4	112
Sine Pad	5	4	90
Tamboura	16	4	105
Echo Drops	0	4	103
Rotary Strng	3	4	90
Stack Pad	9	4	90
Bozouki	24	4	26
Mizmar 1	24	4	112
Uillean Pipe	9	4	110
Sitar 2	1	4	105
Kanoun3 TrmV	60	4	108
Soundtrack	0	4	98
JP8Haunting	43	4	92
Metal Pad	0	4	94
Silky Pad 1	9	4	104
Echo Pan 1	2	4	103
Kawala 2	9	4	76
Di	16	4	73
KanounStereo	53	4	108
Zither	16	4	16
Hichiriki	16	4	112
Octave Pad	8	4	90
Sync Brs.Pad	11	4	90
Silky Pad 2	11	4	104
Star Dust	3	4	104
Mystic Pad	6	4	104
Pi Pa	32	4	106
Sitar/Drone	4	4	105
Sitar 3	5	4	105
Tsugaru	1	4	107
San Xian	9	4	106
Anklung Pad	3	4	97
Tine Pad	1	4	94
Hols Strings	4	4	98
Oct.PWM Pad	12	4	90
PWM Soft Pad	43	4	90
Koto	0	4	108
TinWhistle1	24	4	76
Syn Shamisen	8	4	107
TinWhtsle Nm	25	4	76
Gu Zheng	1	4	108
LFO Sweep	44	4	90
Ambient Pad	6	4	100
Saw Strings	46	4	90
JP8 Sqr Pad	2	4	93
SoftBellPad	1	4	93
Taisho Koto	8	4	108
Kanoon	16	4	108
Bodhran	9	4	109
Bodhran Mute	10	4	109
Didgeridoo	8	4	110
Panner Pad	2	4	94
Bowed Glass	0	4	93
Special Rave	4	4	94

Halo Pad	0	4	95
Sweep Pad	0	4	96
Oud1 Tremolo	40	4	106
Oud+Strings	28	4	106
Kanoon+Choir	19	4	108
Oct Harp	24	4	108
ShakuBamboo	47	4	78
Ambient BPF	2	4	96
Converge	8	4	96
Warriors	4	4	96
Shwimmer	9	4	96
Celestial Pd	10	4	96
UillnPipe Nm	10	4	110
Er Hu	8	4	111
Gao Hu	9	4	111
Shanai 1	0	4	112
Shanai 2	1	4	112
Sweep Stack	13	4	96
Sweep Pipe	12	4	96
SawsSweep	47	4	96
Stray Pad	15	4	96
Clavi Pad	8	4	97
Suona 1	32	4	112
Suona 2	33	4	112
Tinkle Bell	0	4	113
Gender	9	4	113
Pemade	15	4	113
EP Pad	9	4	97
CP Pad	11	4	97
Ancestral	1	4	98
Prologue 1	2	4	98
Prologue 2	3	4	98
Yang Qin	24	4	47
Santur	0	4	16
Cimbalom	8	4	16
Dulcimer	24	4	16
Kanoun 3 St	54	4	108
HistoryWave	5	4	98
Echo Pan 2	3	4	103
Pan Sequence	8	4	103
Star Theme	0	4	104
Echo Bell	1	4	103
Kanoun1 TrmV	58	4	108
Kanoun2 TrmV	59	4	108
Kanoun 1	50	4	108
Kanoun 2	51	4	108
Kanoun 3	52	4	108
Panning Lead	10	4	103
D-Mention	80	4	95
Kanoun Trm	57	4	108
Kanoun 3 Oct	56	4	108
Kanoun Oct.	55	4	108
Kawala Oct.	10	4	76
Kawala Oct.V	11	4	76
Bozouki Trm	25	4	26
Bozouki TrmV	26	4	26
Rababa	10	4	111
Oud 2	25	4	106
Oud 3	26	4	106
Oud2 Tremolo	41	4	106
Oud1Trm VMix	42	4	106
Oud2Trm VMix	43	4	106
Oud Oct.	27	4	106
NAY 2	10	4	73
NAY Oct.	11	4	73
NAY Oct.VMix	12	4	73
Mizmar Trm	28	4	112
Mizmar 2	25	4	112
Mizmar Oct	27	4	112
Mizmar Trm V	29	4	112
Mizmar Dual	26	4	112
Arghool	32	4	73
Percuss - Sfx	CC00	CC32	PC
Reverse Cym.	0	4	120
Woodblock	0	4	116
Taiko	0	4	117

Agogo	0	4	114
Steel Drums	0	4	115
Gun Shot	0	4	128
Telephone 1	0	4	125
Car-Stop	2	4	126
Helicopter	0	4	126
Seashore	0	4	123
Sine Perc.	10	4	119
Fl.Key Click	1	4	122
Cymbal Roll	47	4	113
Elec Perc	9	4	119
Horse-Gallop	2	4	124
Dog	1	4	124
Bird 1	0	4	124
Growl 1	5	4	124
Kitty	4	4	124
Jazz Tom	3	4	118
808 Tom	8	4	119
Melo. Tom 1	0	4	118
Breath Noise	0	4	122
Small Club	7	4	127
Explosion	3	4	128
Car-Engine	1	4	126
Seal	8	4	124
Rain	1	4	123
Thunder	2	4	123
Wind 1	3	4	123
Stream	4	4	123
Melo. Tom 2	8	4	118
Jungle SD	18	4	118
Bubble	5	4	123
Wind 2	6	4	123
Bird 2	3	4	124
DoorCreaking	2	4	125
Siren	5	4	126
Train	6	4	126
Jetplane	7	4	126
Starship	8	4	126
Burst Noise	9	4	126
Synth Drum	0	4	119
Car-Pass	3	4	126
Door	3	4	125
Telephone 2	1	4	125
Cricket	7	4	123
Rev.Snare	8	4	120
Rev.ConBD	17	4	120
Rev.Kick 1	16	4	120
White Noise	17	4	123
Winds Hit	47	4	123
Pink Noise	16	4	123
Scratch 1	4	4	125
TapeRewind	9	4	125
Growl 2	6	4	124
Rev.Tom	25	4	120
Trumpet Nz	9	4	122
Fancy Animal	7	4	124
Scratch 2	7	4	125
ScratchKey	8	4	125
Phono Noise	10	4	125
MC-500 Beep	11	4	125
HandClapMenu	40	4	116
909 HandClap	32	4	116
Finger Snaps	24	4	116
Voice ComeOn	23	4	127
Car-Crash	4	4	126
Calculating	10	4	126
Concert BD	8	4	117
Wind Chimes	5	4	125
Voice One	16	4	127
Voice Two	17	4	127
Voice Three	18	4	127
Voice Tah	19	4	127
Castanets	8	4	116
Tambourine	16	4	114
Perc. Bang	11	4	126
Burner	12	4	126

Glass & Glam	13	4	126
Ice Ring	14	4	126
Crack Bottle	16	4	126
Kajar	17	4	113
Small Taiko	1	4	117
Voice Aou	24	4	127
Voice Oou	25	4	127
Voice Hie	26	4	127
Pour Bottle	17	4	126
Open CD Tray	19	4	126
Audio Switch	20	4	126
Bounce	18	4	117
Key Typing	21	4	126
SL 1	22	4	126
SL 2	23	4	126
Kelontuk Sid	20	4	113
Car Engine	24	4	126
Car Horn	25	4	126
Boeeeen	26	4	126
R.Crossing	27	4	126
Compresser	28	4	126
Sword Boom!	29	4	126
Sword Cross	30	4	126
Stab! 1	31	4	126
Stab! 2	32	4	126
Applause 1	0	4	127
Laughing	1	4	127
Screaming	2	4	127
Punch	3	4	127
Atarigane	8	4	114
Heart Beat	4	4	127
Footsteps	5	4	127
Applause 2	6	4	127
ApplauseWave	8	4	127
Angklung	16	4	116
BabyLaughing	9	4	127
Voice Whey	20	4	127
Voice Kikit	22	4	127
Machine Gun	1	4	128
Lasergun	2	4	128
Bebarongan	25	4	117
Dholak	27	4	117
Eruption	4	4	128
Big Shot	5	4	128
Clap Hit	27	4	56
Stack Hit	25	4	56
Double Hit	10	4	56
Industry Hit	26	4	56
Strings Hit	24	4	56
Technorg Hit	22	4	56
Rave Hit	23	4	56
Bit Hit	20	4	56
Bam Hit	19	4	56
Philly Hit	9	4	56
Dist. Hit	18	4	56
Impact Hit	8	4	56
Euro Hit	3	4	56
Bass Hit	1	4	56
6th Hit	2	4	56
Techno Hit	17	4	56
Lo Fi Rave	16	4	56
Perc. Hit	11	4	56
Shock Wave	12	4	56

23. Drum Sets

		PC: 1 [CC32: 4] STANDARD 1	PC: 2 [CC32: 4] STANDARD 2	PC: 3 [CC32: 4] STANDARD L/R	PC: 7 [CC32: 4] V-Pop1	PC: 5 [CC32: 4] V-R&B	PC: 6 [CC32: 4] V-Fiesta	PC: 9 [CC32: 4] ROOM	PC: 10 [CC32: 4] HIP HOP	PC: 11 [CC32: 4] JUNGLE	PC: 12 [CC32: 4] TECHNO
C–1	0	Std.1 Kick1	Std.1 Kick1	---	HipHop BD1	HipHop BD1	HipHop BD1	Std.1 Kick1	Elec Kick 2	Elec Kick 2	Elec Kick 2
	1	Std.1 Kick2	Std.1 Kick2	---	Jazz Kick 1	Jazz Kick 1	Jazz Kick 1	Std.1 Kick2	Elec Kick 1	Elec Kick 1	Elec Kick 1
	2	Std.2 Kick1	Std.2 Kick1	---	Mex_Kik36	Mex_Kik36	Mex_Kik36	Std.2 Kick1	CR78 BD 1	CR78 BD 1	CR78 BD 1
	3	Std2 Kick2	Std2 Kick2	---	85Rm BsDrum1	85Rm BsDrum1	85Rm BsDrum1	Std2 Kick2	CR78 BD 2	CR78 BD 2	CR78 BD 2
	4	Kick 1	Kick 1	---	85Rm BsDrum2	85Rm BsDrum2	85Rm BsDrum2	Kick 1	TR-606 BD1	TR-606 BD1	TR-606 BD1
	5	Kick 2	Kick 2	---	HipHop BD2	HipHop BD2	HipHop BD2	Kick 2	TR-707 BD	TR-707 BD	TR-707 BD
	6	Jazz Kick 1	Jazz Kick 1	---	Techno BD1	Techno BD1	Techno BD1	Jazz Kick 1	808 Kick	808 Kick	808 Kick
	7	Jazz Kick 2	Jazz Kick 2	---	JungleBD Set	JungleBD Set	JungleBD Set	Jazz Kick 2	TR-808 Kick	TR-808 Kick	TR-808 Kick
	8	Room Kick 1	Room Kick 1	---	HipHop BD1	HipHop BD1	HipHop BD1	Room Kick 1	808 BD	808 BD	808 BD
	9	Room Kick 2	Room Kick 2	---	909 Comp BD	909 Comp BD	909 Comp BD	Room Kick 2	TR-909 Kick	TR-909 Kick	TR-909 Kick
	10	Power Kick1	Power Kick1	---	85St BsDrum1	85St BsDrum1	85St BsDrum1	Power Kick1	Dance Kick 2	Dance Kick 2	Dance Kick 2
	11	Power Kick2	Power Kick2	---	NewJzKik	NewJzKik	NewJzKik	Power Kick2	909 Comp BD	909 Comp BD	909 Comp BD
C0	12	Elec Kick 2	Elec Kick 2	---	NewRockKik	NewRockKik	NewRockKik	Elec Kick 2	TR-909 BD2	TR-909 BD2	TR-909 BD2
	13	Elec Kick 1	Elec Kick 1	---	Cymbal Roll	Cymbal Roll	Cymbal Roll	Elec Kick 1	HipHop BD2	HipHop BD2	HipHop BD2
	14	TR-808 Kick	TR-808 Kick	---	NewRkCStk_2	NewRkCStk_2	NewRkCStk_2	TR-808 Kick	JungleBD Set	JungleBD Set	JungleBD Set
	15	TR-909 Kick	TR-909 Kick	---	82Rm Snare1	82Rm Snare1	82Rm Snare1	TR-909 Kick	Techno BD1	Techno BD1	Techno BD1
	16	Dance Kick 2	Dance Kick 2	---	82Rm Snare2	82Rm Snare2	82Rm Snare2	Dance Kick 2	Bounce	Bounce	Bounce
	17	Voice One	Voice One	Voice One	85St Snare1	85St Snare1	85St Snare1	Voice One	Voice One	Voice One	Voice One
	18	Voice Two	Voice Two	Voice Two	85St Snare2	85St Snare2	85St Snare2	Voice Two	Voice Two	Voice Two	Voice Two
	19	Voice Three	Voice Three	Voice Three	NewJzSn2	NewJzSn2	NewJzSn2	Voice Three	Voice Three	Voice Three	Voice Three
	20	85Rm BsDrum1	---	---	NewJzSn1	NewJzSn1	NewJzSn1	85St BsDrum1	HipHop BD1	TR-909 BD2	HipHop BD2
	21	85Rm BsDrum2	---	---	NewR&BSn	NewR&BSn	NewR&BSn	85St BsDrum2	Std2 Kick2	909 Comp BD	TR-909 BD2
	22	MC-500 Beep	MC-500 Beep	MC-500 Beep	NewRockSn2_2	NewRockSn2_2	NewRockSn2_2	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep
	23	MC-500 Beep	MC-500 Beep	MC-500 Beep	NewRockSn1_2	NewRockSn1_2	NewRockSn1_2	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep
C1	24	Concert Snr	Concert Snr	Concert Snr	IPopSn38_2	IPopSn38_2	IPopSn38_2	Concert Snr	Concert Snr	Concert Snr	Concert Snr
	25	Snare Roll	Snare Roll	Snare Roll	IPopGstS39_2	IPopGstS39_2	IPopGstS39_2	Snare Roll	Snare Roll	Snare Roll	Snare Roll
	26	FingerSnaps2	Finger Snap	FingerSnaps2	IPopSn38_2	IPopSn38_2	IPopSn38_2	Finger Snap	FingerSnaps2	FingerSnaps2	FingerSnaps2
	27	High-Q	High-Q	High-Q	FingerSnaps2	FingerSnaps2	FingerSnaps2	High-Q	High-Q	High-Q	High-Q
	28	Slap	Slap	Slap	909 HandClap	909 HandClap	909 HandClap	Slap	Slap	Slap	Slap
	29	ScratchPush	ScratchPush	ScratchPush	808clap	808clap	808clap	ScratchPush	Scrtch Push2	Scrtch Push2	Scrtch Push2
	30	ScratchPull	ScratchPull	ScratchPull	Hand clap2	Hand clap2	Hand clap2	ScratchPull	Scrtch Pull2	Scrtch Pull2	Scrtch Pull2
	31	Sticks	Sticks	Sticks	909 HandClap	909 HandClap	909 HandClap	Sticks	Sticks	Sticks	Sticks
	32	SquareClick	SquareClick	SquareClick	IPopPHat32	IPopPHat32	Mex_PHat32	SquareClick	SquareClick	SquareClick	SquareClick
	33	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	GospelHClp1	GospelHClp1	GospelHClp1	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click
	34	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	IPopSRll30_1	IPopSRll30_2	Mex_SnrRol34	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell
	35	85St BsDrum1	Std2 Kick2	85St BsDrum1	IPopKik35	IPopKik35	Mex_Kik35	85Rm BsDrum1	TR-909 BD2	HipHop BD1	Techno BD1
C2	36	85St BsDrum2	Std.2 Kick1	85St BsDrum2	IPopKik36	IPopKik36	Mex_Kik36	85Rm BsDrum2	909 Comp BD	Std2 Kick2	TR-909 BD2
	37	Side Stick	Side Stick	Side Stick	IPopCStk37_1	IPopCStk37_2	IPopCStk37_2	Side Stick	808 Rimshot	Side Stick	808 Rimshot
	38	85St Snare2	Std.2 Snare1	85St Snare2	IPopSn38_1	NewR&BSn	Mex_Snr38	82Rm Snare2	Rap Snare	Dance Snare1	Dance Snare1
	39	909 HandClap	808clap	909 HandClap	IPopGstS39_1	NewR&BSnGst	Mex_GstS39	808clap	909 HandClap	HC2 Claps 2	707 Claps
	40	85St Snare1	Std.2 Snare2	85St Snare1	IPopSn40_1	IPopSn40_2	Mex_Snr40	82Rm Snare1	House SD	House SD	909 SD 1
	41	Real Tom 6	Real Tom 6	Real Tom 6	IPopTomLFl41	IPopTomLFl41	IPopTomLFl41	Room Tom 5	Brush Tom	909 Tom	606 Dist.Tom
	42	Close HiHat2	Jazz Clsd.HH	82StClsHatB	IPopHat1_42	IPopHat1_42	Mex_Hat1_42	Room Chh	Room Chh	606 CH	TR-707 HH-c
	43	Real Tom 6	Real Tom 6	Real Tom 6	IPopTomL43	IPopTomL43	IPopTomL43	Room Tom 5	Brush Tom	909 Tom	606 Dist.Tom
	44	Pedal HiHat2	Pedal HiHat	Pedal HiHat2	IPopHat2_44	IPopHat2_44	Mex_Hat2_44	Pedal HiHat	Pedal HiHat	Jungle HH	CR-78 chh
	45	Real Tom 4	Real Tom 4	Real Tom 4	IPopTomMFl45	IPopTomMFl45	IPopTomMFl45	Room Tom 2	Brush Tom	909 Tom	606 Dist.Tom
	46	Open HiHat2	Jazz Open HH	82StOpenHatB	IPopHat3_46	IPopHat3_46	Mex_Hat3_46	R8 Ohh2	R8 Ohh2	606 HiHat Op	909 OH
	47	Real Tom 4	Real Tom 4	Real Tom 4	IPopTomM47	IPopTomM47	IPopTomM47	Room Tom 2	Brush Tom	909 Tom	606 Dist.Tom
C3	48	Real Tom 1	Real Tom 1	Real Tom 1	IPopTomHFl48	IPopTomHFl48	IPopTomHFl48	Room Tom 2	Brush Tom	909 Tom	606 Dist.Tom
	49	Crash Cym.1	Crash Cym.1	Crash1c B	IPopCyml2_52	IPopCym1_49	IPopCym1_49	Crash Cym.1	909 Crash	Jngl Crash	909 Crash
	50	Real Tom 1	Real Tom 1	Real Tom 1	IPopTomH50	IPopTomH50	IPopTomH50	Room Tom 2	Brush Tom	909 Tom	606 Dist.Tom
	51	Ride Cymbal	Ride Cymbal	Ride__c B	IPopRd1_51	IPopRd1_51	IPopRd1_51	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal
	52	ChinaCymbal	ChinaCymbal	ChinaCymbal	IPopCym1_49	IPopCyml2_52	IPopCyml2_52	ChinaCymbal	ReverseCymbl	ReverseCymbl	ReverseCymbl
	53	Ride Bell	Ride Bell	Ridbl_c B	IPopRd2_55	IPopRd2_55	IPopRd2_55	Ride Bell	Ride Bell	Ride Bell	Ride Bell
	54	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine	Shake Tamb	Shake Tamb	Shake Tamb
	55	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.
	56	Cowbell	Cowbell	Cowbell	ChaChaCBell	ChaChaCBell	ChaChaCBell	Cowbell	808cowbe	808cowbe	808cowbe
	57	Crash Cym.2	Crash Cym.2	Crash Cym.2	NewRkCrCym2	NewRkCrCym2	NewRkCrCym2	Crash Cym.2	Crash Cym.2	Crash Cym.2	909 Crash
	58	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap
	59	Ride Cymbal	Ride Cymbal	Ride Cymbal	NewRkRdCym1	NewRkRdCym1	NewRkRdCym1	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal
C4	60	Bongo High	Bongo High	Bongo High	NewHiBongo	NewHiBongo	NewHiBongo	Bongo High	Bongo High	Bongo High	CR78 HiBongo
	61	Bongo Lo	Bongo Lo	Bongo Lo	NewLoBongo	NewLoBongo	NewLoBongo	Bongo Lo	Bongo Lo	Bongo Lo	CR78 LoBongo
	62	Mute H.Conga	Mute H.Conga	Mute H.Conga	NewCongaSlp	NewCongaSlp	NewCongaSlp	Mute H.Conga	Mute H.Conga	Mute H.Conga	808 Conga
	63	Conga Hi Opn	Conga Hi Opn	Conga Hi Opn	NewCongaOp	NewCongaOp	NewCongaOp	Conga Hi Opn	Conga Hi Opn	Conga Hi Opn	808 Conga
	64	Conga Lo Opn	Conga Lo Opn	Conga Lo Opn	NewLoConga	NewLoConga	NewLoConga	Conga Lo Opn	Conga Lo Opn	Conga Lo Opn	808 Conga
	65	High Timbale	High Timbale	High Timbale	NewTmblHi	NewTmblHi	NewTmblHi	High Timbale	High Timbale	High Timbale	High Timbale
	66	Low Timbale	Low Timbale	Low Timbale	NewTmblLo	NewTmblLo	NewTmblLo	Low Timbale	Low Timbale	Low Timbale	Low Timbale
	67	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo
	68	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo
	69	Cabasa	Cabasa	Cabasa	NewShaker2	NewShaker2	NewShaker2	Cabasa	Cabasa	Cabasa	Cabasa
	70	Maracas	Maracas	Maracas	NewShaker1	NewShaker1	NewShaker1	Maracas	808marac	808marac	808marac
	71	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle
C5	72	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle
	73	Short Guiro	Short Guiro	Short Guiro	NewQuide1	NewQuide1	NewQuide1	Short Guiro	Short Guiro	Short Guiro	Short Guiro
	74	Long Guiro	Long Guiro	Long Guiro	NewQuide2	NewQuide2	NewQuide2	Long Guiro	CR78 Guiro	CR78 Guiro	CR78 Guiro
	75	Claves	Claves	Claves	NewClaves	NewClaves	NewClaves	Claves	808clave	808clave	808clave
	76	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock
	77	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock
	78	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Hoo	Hoo	Hoo
	79	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Hoo	Hoo	Hoo
	80	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl
	81	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl
	82	Shaker	Shaker	Shaker	Shaker	Shaker	Shaker	Shaker	626 Shaker	626 Shaker	626 Shaker
	83	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell
C6	84	Bell Tree	Bar Chimes	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree
	85	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets
	86	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo
	87	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo
	88	Applause 2	Applause 2	Applause 2	Cana	Cana	Cana	Applause 2	Small Club	Small Club	Applause 2
	89	---	---	---	NewTmblHiFlm	NewTmblHiFlm	NewTmblHiFlm	---	Rap Snare	Jngl BD Roll	Dance Snare1
	90	---	---	---	NewTmblLoFlm	NewTmblLoFlm	NewTmblLoFlm	---	Power Snare2	Jngl SD Roll	Elec Snare 2
	91	---	---	---	NewTmblPHS	NewTmblPHS	NewTmblPHS	---	Noise Slap	66sn260	Dance Snare1
	92	---	---	---	NewShekere1	NewShekere1	NewShekere1	---	85St Snare1	Dance Snare1	House SD
	93	---	---	---	NewShekere2	NewShekere2	NewShekere2	---	85St Snare2	909 SD 1	Rap Snare
	94	---	---	---	NHBngoMute	NHBngoMute	NHBngoMute	---	82Rm Snare1	Elec Snare 2	House SD
	95	82Rm Snare2	---	85St BsDrum1	NewLBngoMute	NewLBngoMute	NewLBngoMute	85St Snare2	82Rm Snare2	Dance Snare1	Dance Snare1
C7	96	82Rm Snare1	---	85St BsDrum2	CajonHi	CajonHi	CajonHi	85St Snare1	Dance Snare1	Rap Snare	Rap Snare

		PC: 13 [CC32: 4] ROOM L/R	PC: 14 [CC32: 4] HOUSE	PC: 17 [CC32: 4] POWER	PC: 20 [CC32: 4] V-Rock1	PC: 19 [CC32: 4] V-Rock2	PC: 25 [CC32: 4] ELECTRONIC	PC: 26 [CC32: 4] TR-808	PC: 27 [CC32: 4] DANCE	PC: 28 [CC32: 4] CR-78	PC: 29 [CC32: 4] TR-606
C–1	0	---	Elec Kick 2	Std.1 Kick1	HipHop BD1	HipHop BD1	Elec Kick 2	Elec Kick 2	Elec Kick 2	Elec Kick 2	Elec Kick 2
	1	---	Elec Kick 1	Std.1 Kick2	Jazz Kick 1	Jazz Kick 1	Elec Kick 1	Elec Kick 1	Elec Kick 1	Elec Kick 1	Elec Kick 1
	2	---	CR78 BD 1	Std.2 Kick1	Mex_Kik36	Mex_Kik36	CR78 BD 1	CR78 BD 1	CR78 BD 1	CR78 BD 1	CR78 BD 1
	3	---	CR78 BD 2	Std2 Kick2	85Rm BsDrum1	85Rm BsDrum1	CR78 BD 2	CR78 BD 2	CR78 BD 2	CR78 BD 2	CR78 BD 2
	4	---	TR-606 BD1	Kick 1	85Rm BsDrum2	85Rm BsDrum2	TR-606 BD1	TR-606 BD1	TR-606 BD1	TR-606 BD1	TR-606 BD1
	5	---	TR-707 BD	Kick 2	HipHop BD2	HipHop BD2	TR-707 BD	TR-707 BD	TR-707 BD	TR-707 BD	TR-707 BD
	6	---	808 Kick	Jazz Kick 1	Techno BD1	Techno BD1	808 Kick	808 Kick	808 Kick	808 Kick	808 Kick
	7	---	TR-808 Kick	Jazz Kick 2	JungleBD Set	JungleBD Set	TR-808 Kick	TR-808 Kick	TR-808 Kick	TR-808 Kick	TR-808 Kick
	8	---	808 BD	Room Kick 1	HipHop BD1	HipHop BD1	808 BD	808 BD	808 BD	808 BD	808 BD
	9	---	TR-909 Kick	Room Kick 2	909 Comp BD	909 Comp BD	TR-909 Kick	TR-909 Kick	TR-909 Kick	TR-909 Kick	TR-909 Kick
	10	---	Dance Kick 2	Power Kick1	855t BsDrum1	855t BsDrum1	Dance Kick 2	Dance Kick 2	Dance Kick 2	Dance Kick 2	Dance Kick 2
	11	---	909 Comp BD	Power Kick2	NewJzKik	NewJzKik	909 Comp BD	909 Comp BD	909 Comp BD	909 Comp BD	909 Comp BD
C0	12	---	TR-909 BD2	Elec Kick 2	NewRockKik	NewRockKik	TR-909 BD2	TR-909 BD2	TR-909 BD2	TR-909 BD2	TR-909 BD2
	13	---	HipHop BD2	Elec Kick 1	Cymbal Roll	Cymbal Roll	HipHop BD2	HipHop BD2	HipHop BD2	HipHop BD2	HipHop BD2
	14	---	JungleBD Set	TR-808 Kick	NewRkCStk_2	NewRkCStk_2	JungleBD Set	JungleBD Set	JungleBD Set	JungleBD Set	JungleBD Set
	15	---	Techno BD1	TR-909 Kick	82Rm Snare1	82Rm Snare1	Techno BD1	Techno BD1	Techno BD1	Techno BD1	Techno BD1
	16	---	Bounce	Dance Kick 2	82Rm Snare2	82Rm Snare2	Bounce	Bounce	Bounce	Bounce	Bounce
	17	Voice One	Voice One	Voice One	855t Snare1	855t Snare1	Voice One	Voice One	Voice One	Voice One	Voice One
	18	Voice Two	Voice Two	Voice Two	855t Snare2	855t Snare2	Voice Two	Voice Two	Voice Two	Voice Two	Voice Two
	19	Voice Three	Voice Three	Voice Three	NewJzSn2	NewJzSn2	Voice Three	Voice Three	Voice Three	Voice Three	Voice Three
	20	---	TR-909 BD2	---	NewJzSn1	NewJzSn1	---	---	HipHop BD2	---	---
	21	---	Techno BD2	---	NewR&BSn	NewR&BSn	---	---	TR-909 BD2	---	---
	22	MC-500 Beep	MC-500 Beep	MC-500 Beep	IPopSn40_2	IPopSn40_2	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep
	23	MC-500 Beep	MC-500 Beep	MC-500 Beep	IPopSn38_2	IPopSn38_2	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep
C1	24	Concert Snr	Concert Snr	Concert Snr	IPopSn38_2	IPopSn38_2	Concert Snr	Concert Snr	Concert Snr	Concert Snr	Concert Snr
	25	Snare Roll	Snare Roll	Snare Roll	IPopGstS39_2	IPopGstS39_2	Snare Roll	Snare Roll	Snare Roll	Snare Roll	Snare Roll
	26	Finger Snap	FingerSnaps2	FingerSnaps2	IPopSn40_2	IPopSn38_2	Finger Snap	FingerSnaps2	Finger Snap	FingerSnaps2	FingerSnaps2
	27	High-Q	High-Q	High-Q	FingerSnaps2	FingerSnaps2	High-Q	High-Q	High-Q	High-Q	High-Q
	28	Slap	Slap	Slap	909 HandClap	909 HandClap	Slap	Slap	Slap	Slap	Slap
	29	ScratchPush	Scrtch Push2	ScratchPush	808clap	808clap	Scrtch Push2	Scrtch Push2	Scrtch Push2	Scrtch Push2	Scrtch Push2
	30	ScratchPull	Scrtch Pull2	ScratchPull	Hand clap2	Hand clap2	Scrtch Pull2	Scrtch Pull2	Scrtch Pull2	Scrtch Pull2	Scrtch Pull2
	31	Sticks	Sticks	Sticks	909 HandClap	909 HandClap	Sticks	Sticks	Sticks	Sticks	Sticks
	32	SquareClick	SquareClick	SquareClick	NewRkHatPdl	NewRkHatPdl	SquareClick	SquareClick	SquareClick	SquareClick	SquareClick
	33	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	GospelHClp1	GospelHClp1	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click
	34	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	NewRkSnRll	NewRkSnRll	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell
	35	85Rm BsDrum1	HipHop BD2	Power Kick2	NewRockKik	NewRockKik	Elec Kick 2	808 BD	TR-909 BD2	CR78 BD 2	CR78 BD 2
C2	36	85Rm BsDrum2	TR-909 BD2	Power Kick1	NewRockKik	NewRockKik	Elec Kick 1	TR-808 Kick	Techno BD2	CR78 BD 1	TR-606 BD1
	37	Side Stick	Side Stick	Side Stick	NewRkCStk_1	NewRkCStk_1	Side Stick	808 Rimshot	Side Stick	CR78 Rim	CR78 Rim
	38	82Rm Snare2	House SD	Dance Snare1	NewRockSn1_1	NewRockSn1_1	Elec. Snare	808 Snare 1	Dance Snare1	CR78 SD 1	66sn160
	39	808clap	909 HandClap	808clap	NewRkSnGst	NewRkSnGst	808clap	808clap	909 HandClap	707 Claps	707 Claps
	40	82Rm Snare1	Elec Snare 2	Power Snare1	NewRockSn2_1	NewRockSn2_1	Elec Snare 2	TR-808 SD2	Power Snare1	CR78 SD 2	66sn260
	41	Room Tom 5	909 Tom	Rock Tom 4	NewRkTomL2Fl	NewRkTomL1Fl	Synth Drum 2	808 Tom 2	Synth Drum 2	78 TOM	606 Tom
	42	82RmClsHatB	TR-707 HH-c	Close HiHat2	NewRkHat1	NewRkHat1	Jazz Clsd.HH	TR-808 CHH	CR-78 chh	CR-78 chh	606 CH
	43	Room Tom 5	909 Tom	Rock Tom 4	NewRkTomL2	NewRkTomL1	Synth Drum 2	808 Tom 2	Synth Drum 2	78 TOM	606 Tom
	44	Pedal HiHat	CR-78 chh	Pedal HiHat2	NewRkHat2	NewRkHat2	Pedal HiHat	808__chh	808__chh	606 CH	606 CH
	45	Room Tom 2	909 Tom	Rock Tom 4	NewRkTomL1Fl	NewRkTomMFl	Synth Drum 2	808 Tom 2	Synth Drum 2	78 TOM	606 Tom
	46	82RmOpenHatB	909 OH	Open HiHat2	NewRkHat3	NewRkHat3	Jazz Open HH	TR-808 OHH	CR-78 ohh	CR-78 ohh	606 HiHat Op
	47	Room Tom 2	909 Tom	Rock Tom 4	NewRkTomL1	NewRkTomM	Synth Drum 2	808 Tom 2	Synth Drum 2	78 TOM	606 Tom
C3	48	Room Tom 2	909 Tom	Rock Tom 1	NewRkTomMFl	NewRkTomHiFl	Synth Drum 2	808 Tom 2	Synth Drum 2	78 TOM	606 Tom
	49	Crash1c B	909 Crash	Crash Cym.1	NewRkCrCym1	NewRkCrCym1	Crash Cym.1	808 Crash	808 Crash	808 Crash	808 Crash
	50	Room Tom 2	909 Tom	Rock Tom 1	NewRkTomM	NewRkTomHi	Synth Drum 2	808 Tom 2	Synth Drum 2	78 TOM	606 Tom
	51	Ride__c B	909 Ride Cym	Ride Cymbal	NewRkRdCym1	NewRkRdCym1	Ride Cymbal	606 Ride Cym	606 Ride Cym	606 Ride Cym	606 Ride Cym
	52	ChinaCymbal	ReverseCymbl	ChinaCymbal	NewRkCrCym2	NewRkCrCym2	ReverseCymbl	ChinaCymbal	ReverseCymbl	ChinaCymbal	ChinaCymbal
	53	Ridbl_c B	Ride Bell	Ride Bell	NewRkRdCym2	NewRkRdCym2	Ride Bell	Ride Bell	Ride Bell	Ride Bell	Ride Bell
	54	Tambourine	Shake Tamb	Tambourine	Tambourine	Tambourine	Tambourine	CR78 Tmb	Shake Tamb	CR78 Tmb	CR78 Tmb
	55	Splash Cym.	Splash Cym.	Splash Cym.	NewRkCrCym3	NewRkCrCym3	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.
	56	Cowbell	808cowbe	Cowbell	ChaChaCBell	ChaChaCBell	Cowbell	808cowbe	808cowbe	CR78 Cow	CR78 Cow
	57	Crash Cym.2	909 Crash	Crash Cym.2	NewRkCrCym4	NewRkCrCym4	Crash Cym.2	909 Crash	Crash Cym.2	909 Crash	909 Crash
	58	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap
	59	Ride Cymbal	Ride Cymbal	Ride Cymbal	IPopRd1_51	IPopRd1_51	Ride Cymbal	RideCym Edge	Ride Cymbal	RideCym Edge	RideCym Edge
C4	60	Bongo High	CR78 HiBongo	Bongo High	NewHiBongo	NewHiBongo	Bongo High	CR78 HiBongo	Bongo High	CR78 HiBongo	CR78 HiBongo
	61	Bongo Lo	CR78 LoBongo	Bongo Lo	NewLoBongo	NewLoBongo	Bongo Lo	CR78 LoBongo	Bongo Lo	CR78 LoBongo	CR78 LoBongo
	62	Mute H.Conga	808 Conga	Mute H.Conga	NewCongaSlp	NewCongaSlp	Mute H.Conga	808 Conga	Mute H.Conga	808 Conga	808 Conga
	63	Conga Hi Opn	808 Conga	Conga Hi Opn	NewCongaOp	NewCongaOp	Conga Hi Opn	808 Conga	Conga Hi Opn	808 Conga	808 Conga
	64	Conga Lo Opn	808 Conga	Conga Lo Opn	NewLoConga	NewLoConga	Conga Lo Opn	808 Conga	Conga Lo Opn	808 Conga	808 Conga
	65	High Timbale	High Timbale	High Timbale	NewTmblHi	NewTmblHi	High Timbale	High Timbale	High Timbale	High Timbale	High Timbale
	66	Low Timbale	Low Timbale	Low Timbale	NewTmblLo	NewTmblLo	Low Timbale	Low Timbale	Low Timbale	Low Timbale	Low Timbale
	67	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo
	68	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo
	69	Cabasa	Cabasa	Cabasa	NewShaker2	NewShaker2	Cabasa	Cabasa	Cabasa	Cabasa	Cabasa
	70	Maracas	808marac	Maracas	NewShaker1	NewShaker1	Maracas	808marac	Maracas	CR78 Maracas	CR78 Maracas
	71	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle
C5	72	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle
	73	Short Guiro	Short Guiro	Short Guiro	NewQuide1	NewQuide1	Short Guiro	Short Guiro	Short Guiro	Short Guiro	Short Guiro
	74	Long Guiro	CR78 Guiro	Long Guiro	NewQuide2	NewQuide2	Long Guiro	CR78 Guiro	Long Guiro	CR78 Guiro	CR78 Guiro
	75	Claves	808clave	Claves	NewClaves	NewClaves	Claves	808clave	Claves	CR78 Clv	CR78 Clv
	76	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock
	77	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock
	78	Mute Cuica	Hoo	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Hoo	Hoo	Hoo	Hoo
	79	Open Cuica	Hoo	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Hoo	Hoo	Hoo	Hoo
	80	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	CR78 M.Beat	CR78 M.Beat
	81	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	CR78 M.Beat	CR78 M.Beat
	82	Shaker	626 Shaker	Shaker	Shaker	Shaker	Shaker	626 Shaker	626 Shaker	626 Shaker	626 Shaker
	83	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell
C6	84	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree
	85	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets
	86	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo
	87	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo
	88	Applause 2	Applause 2	Applause 2	Cana	Cana	Small Club	Small Club	Small Club	Small Club	Small Club
	89	---	66sn260	---	NewTmblHiFlm	NewTmblHiFlm	---	---	66sn260	---	---
	90	---	Dance Snare1	---	NewTmblLoFlm	NewTmblLoFlm	---	---	909 SD 1	---	---
	91	---	909 SD 1	---	NewTmblPHS	NewTmblPHS	---	---	Elec Snare 2	---	---
	92	---	Dance Snare1	---	NewShekere1	NewShekere1	---	---	House SD	---	---
	93	---	Dance Snare1	---	NewShekere2	NewShekere2	---	---	Rap Snare	---	---
	94	---	Rap Snare	---	NHBngoMute	NHBngoMute	---	---	House SD	---	---
	95	85Rm BsDrum1	House SD	---	NewLBngoMute	NewLBngoMute	---	---	Dance Snare1	---	---
C7	96	85Rm BsDrum2	House SD	---	CajonHi	CajonHi	---	---	Rap Snare	---	---

		PC: 1 [CC32: 4] STANDARD 1	PC: 2 [CC32: 4] STANDARD 2	PC: 3 [CC32: 4] STANDARD L/R	PC: 7 [CC32: 4] V-Pop1	PC: 5 [CC32: 4] V-R&B	PC: 6 [CC32: 4] V-Fiesta	PC: 9 [CC32: 4] ROOM	PC: 10 [CC32: 4] HIP HOP	PC: 11 [CC32: 4] JUNGLE	PC: 12 [CC32: 4] TECHNO
(C7)	(96)	82Rm Snare1	---	855t BsDrum2	CajonHi	CajonHi	CajonHi	855t Snare1	Dance Snare1	Rap Snare	Rap Snare
	97	Std.1 Snare1	Std.1 Snare1	Crash Cym.1	CajonHiFlm	CajonHiFlm	CajonHiFlm	Std.1 Snare1	Techno Hit	Techno Hit	Techno Hit
	98	Std.1 Snare2	Std.1 Snare2	855t Snare2	CajonLo	CajonLo	CajonLo	Std.1 Snare2	Philly Hit	Philly Hit	Philly Hit
	99	Std.2 Snare1	Std.2 Snare1	Ride Cymbal	CajonLoFlm	CajonLoFlm	CajonLoFlm	Std.2 Snare1	Shock Wave	Shock Wave	Shock Wave
	100	Std.2 Snare2	Std.2 Snare2	855t Snare1	FlmncoHClp1	FlmncoHClp1	FlmncoHClp1	Std.2 Snare2	Lo Fi Rave	Lo Fi Rave	Lo Fi Rave
	101	Tight Snare	Tight Snare	Real Tom 6	FlmncoHClp1	FlmncoHClp1	FlmncoHClp1	Tight Snare	Bam Hit	Bam Hit	Bam Hit
	102	Standard SN1	Standard SN1	Close HiHat2	BongoCowBell	BongoCowBell	BongoCowBell	Standard SN1	Bim Hit	Bim Hit	Bim Hit
	103	LD Snare M	LD Snare M	Real Tom 4	AfHey	AfHey	AfHey	LD Snare M	TapeRewind	TapeRewind	TapeRewind
	104	LD Snare C	LD Snare C	Ride Bell	MamboCowBell	MamboCowBell	MamboCowBell	LD Snare C	Phono Noise	Phono Noise	Phono Noise
	105	Jazz Snare 1	Jazz Snare 1	Real Tom 1	MexFVox2	MexFVox2	MexFVox2	Jazz Snare 1	Dance Snare1	Dance Snare1	Dance Snare1
	106	Jazz Snare 2	Jazz Snare 2	Open HiHat2	AfFoots	AfFoots	AfFoots	Jazz Snare 2	Power Snare2	Power Snare2	Power Snare2
	107	Room Snare 1	Room Snare 1	82StBsDrum1P	MexFVox1	MexFVox1	MexFVox1	Room Snare 1	Elec Snare 1	Elec Snare 1	Elec Snare 1
C8	108	Room Snare 2	Room Snare 2	82StBsDrum2P	MexMVox1	MexMVox1	MexMVox1	Room Snare 2	Dance Snare2	Dance Snare2	Dance Snare2
	109	Dance Snare1	Dance Snare1	82JzCrsCym1P	YodelFVox1	YodelFVox1	YodelFVox1	Dance Snare1	Elec Snare 2	Elec Snare 2	Elec Snare 2
	110	Power Snare1	Power Snare1	82StSnare2P	MexMVox2	MexMVox2	MexMVox2	Power Snare1	Elec. Snare	Elec. Snare	Elec. Snare
	111	Rev.Snare	Rev.Snare	Ride__c P	YodelMVox1	YodelMVox1	YodelMVox1	Rev.Snare	Elec Snare 3	Elec Snare 3	Elec Snare 3
	112	Power Snare2	Power Snare2	82St Snare1P	MexMVox3	MexMVox3	MexMVox3	Power Snare2	66sn260	66sn260	66sn260
	113	Elec Snare 1	Elec Snare 1	Real6_t P	FlmncoFVox1	FlmncoFVox1	FlmncoFVox1	Elec Snare 1	TR-707 SD	TR-707 SD	TR-707 SD
	114	Dance Snare2	Dance Snare2	82St ClsHatP	YodelFVox2	YodelFVox2	YodelFVox2	Dance Snare2	808 Snare 1	808 Snare 1	808 Snare 1
	115	Elec Snare 2	Elec Snare 2	Real4_t P	FlmncoFVox2	FlmncoFVox2	FlmncoFVox2	Elec Snare 2	808 Snare 2	808 Snare 2	808 Snare 2
	116	Elec. Snare	Elec. Snare	Ridbl_c P	NewWhistle1	NewWhistle1	NewWhistle1	Elec. Snare	TR-808 SD2	TR-808 SD2	TR-808 SD2
	117	Elec Snare 3	Elec Snare 3	Real1_t P	FlmncoFVox3	FlmncoFVox3	FlmncoFVox3	Elec Snare 3	909 Snare 1	909 Snare 1	909 Snare 1
	118	TR-707 SD	TR-707 SD	82StOpenHatP	NewWhistle2	NewWhistle2	NewWhistle2	TR-707 SD	909 Snare 2	909 Snare 2	909 Snare 2
	119	808 Snare 1	808 Snare 1	---	FlmncoMVox1	FlmncoMVox1	FlmncoMVox1	808 Snare 1	909 SD 1	909 SD 1	909 SD 1
C9	120	808 Snare 2	808 Snare 2	---	FlmncoMVox2	FlmncoMVox2	FlmncoMVox2	808 Snare 2	TR-909 SD2	TR-909 SD2	TR-909 SD2
	121	909 Snare 1	909 Snare 1	---	BrazilVox1	BrazilVox1	BrazilVox1	909 Snare 1	Rap Snare	Rap Snare	Rap Snare
	122	909 Snare 2	909 Snare 2	---	FlmncoMVox3	FlmncoMVox3	FlmncoMVox3	909 Snare 2	JungleSD1	JungleSD1	JungleSD1
	123	Rap Snare	Rap Snare	---	BrazilVox2	BrazilVox2	BrazilVox2	Rap Snare	House SD	House SD	House SD
	124	JungleSD1	JungleSD1	---	BrazilVox3	BrazilVox3	BrazilVox3	JungleSD1	House Snare	House Snare	House Snare
	125	House SD	House SD	---	AfAahhh	AfAahhh	AfAahhh	House SD	House SD	House SD	House SD
	126	House Snare	House Snare	---	p33137v	p33137v	p33137v	House Snare	Voice Tah	Voice Tah	Voice Tah
G9	127	House SD	House SD	---	p33168v	p33168v	p33168v	House SD	Noise Slap	Noise Slap	Noise Slap

		PC: 13 [CC32: 4] ROOM L/R	PC: 14 [CC32: 4] HOUSE	PC: 17 [CC32: 4] POWER	PC: 20 [CC32: 4] V-Rock1	PC: 19 [CC32: 4] V-Rock2	PC: 25 [CC32: 4] ELECTRONIC	PC: 26 [CC32: 4] TR-808	PC: 27 [CC32: 4] DANCE	PC: 28 [CC32: 4] CR-78	PC: 29 [CC32: 4] TR-606
(C7)	(96)	85Rm BsDrum2	House SD	---	CajonHi	CajonHi	---	---	Rap Snare	---	---
	97	Crash Cym.1	Techno Hit	Std.1 Snare1	CajonHiFlm	CajonHiFlm	Techno Hit	Techno Hit	Techno Hit	Techno Hit	Techno Hit
	98	82Rm Snare2	Philly Hit	Std.1 Snare2	CajonLo	CajonLo	Philly Hit	Philly Hit	Philly Hit	Philly Hit	Philly Hit
	99	Ride Cymbal	Shock Wave	Std.2 Snare1	CajonLoFlm	CajonLoFlm	Shock Wave	Shock Wave	Shock Wave	Shock Wave	Shock Wave
	100	82Rm Snare1	Lo Fi Rave	Std.2 Snare2	FlmncoHClp1	FlmncoHClp1	Lo Fi Rave	Lo Fi Rave	Lo Fi Rave	Lo Fi Rave	Lo Fi Rave
	101	Room Tom 5	Bam Hit	Tight Snare	FlmncoHClp1	FlmncoHClp1	Bam Hit	Bam Hit	Bam Hit	Bam Hit	Bam Hit
	102	Room Chh	Bim Hit	Standard SN1	BongoCowBell	BongoCowBell	Bim Hit	Bim Hit	Bim Hit	Bim Hit	Bim Hit
	103	Room Tom 2	TapeRewind	LD Snare M	AfHey	AfHey	TapeRewind	TapeRewind	TapeRewind	TapeRewind	TapeRewind
	104	Ride Bell	Phono Noise	LD Snare C	MamboCowBell	MamboCowBell	Phono Noise	Phono Noise	Phono Noise	Phono Noise	Phono Noise
	105	Room Tom 2	Dance Snare1	Jazz Snare 1	MexFVox2	MexFVox2	Dance Snare1	Dance Snare1	Dance Snare1	Dance Snare1	Dance Snare1
	106	R8 Ohh2	Power Snare2	Jazz Snare 2	AfFoots	AfFoots	Power Snare2	Power Snare2	Power Snare2	Power Snare2	Power Snare2
	107	82RmBsDrum1P	Elec Snare 1	Room Snare 1	MexFVox1	MexFVox1	Elec Snare 1	Elec Snare 1	Elec Snare 1	Elec Snare 1	Elec Snare 1
C8	108	82RmBsDrum2P	Dance Snare2	Room Snare 2	MexMVox1	MexMVox1	Dance Snare2	Dance Snare2	Dance Snare2	Dance Snare2	Dance Snare2
	109	82JzCrsCym1P	Elec Snare 2	Dance Snare1	YodelFVox1	YodelFVox1	Elec Snare 2	Elec Snare 2	Elec Snare 2	Elec Snare 2	Elec Snare 2
	110	82RmSnare2 P	Elec. Snare	Power Snare1	MexMVox2	MexMVox2	Elec. Snare	Elec. Snare	Elec. Snare	Elec. Snare	Elec. Snare
	111	Ride__c P	Elec Snare 3	Rev.Snare	YodelMVox1	YodelMVox1	Elec Snare 3	Elec Snare 3	Elec Snare 3	Elec Snare 3	Elec Snare 3
	112	82RmSnare1P	66sn260	Power Snare2	MexMVox3	MexMVox3	66sn260	66sn260	66sn260	66sn260	66sn260
	113	Room Tom 5 P	TR-707 SD	Elec Snare 1	FlmncoFVox1	FlmncoFVox1	TR-707 SD	TR-707 SD	TR-707 SD	TR-707 SD	TR-707 SD
	114	82Rm ClsHatP	808 Snare 1	Dance Snare2	YodelFVox2	YodelFVox2	808 Snare 1	808 Snare 1	808 Snare 1	808 Snare 1	808 Snare 1
	115	Room Tom 2 P	808 Snare 2	Elec Snare 2	FlmncoFVox2	FlmncoFVox2	808 Snare 2	808 Snare 2	808 Snare 2	808 Snare 2	808 Snare 2
	116	Ridbl_c P	TR-808 SD2	Elec. Snare	NewWhistle1	NewWhistle1	TR-808 SD2	TR-808 SD2	TR-808 SD2	TR-808 SD2	TR-808 SD2
	117	Room Tom 2 P	909 Snare 1	Elec Snare 3	FlmncoFVox3	FlmncoFVox3	909 Snare 1	909 Snare 1	909 Snare 1	909 Snare 1	909 Snare 1
	118	82RmOpenHatP	909 Snare 2	TR-707 SD	NewWhistle2	NewWhistle2	909 Snare 2	909 Snare 2	909 Snare 2	909 Snare 2	909 Snare 2
	119	---	909 SD 1	808 Snare 1	FlmncoMVox1	FlmncoMVox1	909 SD 1	909 SD 1	909 SD 1	909 SD 1	909 SD 1
C9	120	---	TR-909 SD2	808 Snare 2	FlmncoMVox2	FlmncoMVox2	TR-909 SD2	TR-909 SD2	TR-909 SD2	TR-909 SD2	TR-909 SD2
	121	---	Rap Snare	909 Snare 1	BrazilVox1	BrazilVox1	Rap Snare	Rap Snare	Rap Snare	Rap Snare	Rap Snare
	122	---	JungleSD1	909 Snare 2	FlmncoMVox3	FlmncoMVox3	JungleSD1	JungleSD1	JungleSD1	JungleSD1	JungleSD1
	123	---	House SD	Rap Snare	BrazilVox2	BrazilVox2	House SD	House SD	House SD	House SD	House SD
	124	---	House Snare	JungleSD1	BrazilVox3	BrazilVox3	House Snare	House Snare	House Snare	House Snare	House Snare
	125	---	House SD	House SD	AfAahhh	AfAahhh	House SD	House SD	House SD	House SD	House SD
	126	---	Voice Tah	House Snare	p33137v	p33137v	Voice Tah	Voice Tah	Voice Tah	Voice Tah	Voice Tah
G9	127	---	Noise Slap	House SD	p33168v	p33168v	Noise Slap	Noise Slap	Noise Slap	Noise Slap	Noise Slap

		PC: 30 [CC32: 4]	PC: 31 [CC32: 4]	PC: 33 [CC32: 4]	PC: 34 [CC32: 4]	PC: 41 [CC32: 4]	PC: 42 [CC32: 4]	PC: 43 [CC32: 4]	PC: 44 [CC32: 4]	PC: 49 [CC32: 4]	PC: 50 [CC32: 4]
		TR-707	TR-909	JAZZ	JAZZ L/R	BRUSH	BRUSH 2	BRUSH 2 L/R	V-JazzBrush	ORCHESTRA	ETHNIC
C–1	0	Elec Kick 2	Elec Kick 2	Std.1 Kick1	---	Std.1 Kick1	Std.1 Kick1	---	HipHop BD1	Std.1 Kick1	---
	1	Elec Kick 1	Elec Kick 1	Std.1 Kick2	---	Std.1 Kick2	Std.1 Kick2	---	Jazz Kick 1	Std.1 Kick2	---
	2	CR78 BD 1	CR78 BD 1	Std.2 Kick1	---	Std.2 Kick1	Std.2 Kick1	---	Mex_Kik36	Std.2 Kick1	---
	3	CR78 BD 2	CR78 BD 2	Std2 Kick2	---	Std2 Kick2	Std2 Kick2	---	85Rm BsDrum1	Std2 Kick2	---
	4	TR-606 BD1	TR-606 BD1	Kick 1	---	Kick 1	Kick 1	---	85Rm BsDrum2	Kick 1	---
	5	TR-707 BD	TR-707 BD	Kick 2	---	Kick 2	Kick 2	---	HipHop BD2	Kick 2	---
	6	808 Kick	808 Kick	Jazz Kick 1	---	Jazz Kick 1	Jazz Kick 1	---	Techno BD1	Jazz Kick 1	---
	7	TR-808 Kick	TR-808 Kick	Jazz Kick 2	---	Jazz Kick 2	Jazz Kick 2	---	JungleBD Set	Jazz Kick 2	---
	8	808 BD	808 BD	Room Kick 1	---	Room Kick 1	Room Kick 1	---	HipHop BD1	Room Kick 1	---
	9	TR-909 Kick	TR-909 Kick	Room Kick 2	---	Room Kick 2	Room Kick 2	---	909 Comp BD	Room Kick 2	---
	10	Dance Kick 2	Dance Kick 2	Power Kick1	---	Power Kick1	Power Kick1	---	85St BsDrum1	Power Kick1	---
	11	909 Comp BD	909 Comp BD	Power Kick2	---	Power Kick2	Power Kick2	---	NewJzKik	Power Kick2	---
C0	12	TR-909 BD2	TR-909 BD2	Elec Kick 2	---	Elec Kick 2	Elec Kick 2	---	NewRockKik	Elec Kick 2	---
	13	HipHop BD2	HipHop BD2	Elec Kick 1	---	Elec Kick 1	Elec Kick 1	---	Cymbal Roll	Elec Kick 1	---
	14	JungleBD Set	JungleBD Set	TR-808 Kick	---	TR-808 Kick	TR-808 Kick	---	NewRkCStk_2	TR-808 Kick	---
	15	Techno BD1	Techno BD1	TR-909 Kick	---	TR-909 Kick	TR-909 Kick	---	82Rm Snare1	TR-909 Kick	---
	16	Bounce	Bounce	Dance Kick 2	---	Dance Kick 2	Dance Kick 2	---	82Rm Snare2	Dance Kick 2	---
	17	Voice One	Voice One	Voice One	Voice One	Voice One	Voice One	Voice One	85St Snare1	Voice One	---
	18	Voice Two	Voice Two	Voice Two	Voice Two	Voice Two	Voice Two	Voice Two	85St Snare2	Voice Two	---
	19	Voice Three	Voice Three	Voice Three	Voice Three	Voice Three	Voice Three	Voice Three	NewJzSn2	Voice Three	---
	20	---	---	82Br BsDrum1	---	---	82Jz BsDrum1	---	NewJzSn1	---	---
	21	---	---	82Br BsDrum2	---	---	82Jz BsDrum2	---	NewR&BSn	---	---
	22	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep	IPopSn38_2	MC-500 Beep	---
	23	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep	MC-500 Beep	IPopSn40_2	MC-500 Beep	---
C1	24	Concert Snr	Concert Snr	Concert Snr	Concert Snr	Concert Snr	Concert Snr	Concert Snr	IPopSn38_2	Concert Snr	---
	25	Snare Roll	Snare Roll	Snare Roll	Snare Roll	Snare Roll	Snare Roll	Snare Roll	IPopGstS39_2	Snare Roll	Finger Snap
	26	FingerSnaps2	FingerSnaps2	Finger Snap	Finger Snap	Finger Snap	Finger Snap	Finger Snap	IPopSn38_2	Finger Snap	Tambourine
	27	High-Q	High-Q	High-Q	High-Q	High-Q	High-Q	High-Q	FingerSnaps2	Jazz Clsd.HH	Castanets
	28	Slap	Slap	Slap	Slap	Slap	Slap	Slap	909 HandClap	Pedal HiHat	Crash Cym.1
	29	Scrtch Push2	Scrtch Push2	ScratchPush	ScratchPush	ScratchPush	ScratchPush	ScratchPush	808clap	Jazz Open HH	Snare Roll
	30	Scrtch Pull2	Scrtch Pull2	ScratchPull	ScratchPull	ScratchPull	ScratchPull	ScratchPull	Hand clap2	Ride Cymbal	Concert Snr
	31	Sticks	Sticks	Sticks	Sticks	Sticks	Sticks	Sticks	909 HandClap	Sticks	Concert Cym
	32	SquareClick	SquareClick	SquareClick	SquareClick	SquareClick	SquareClick	SquareClick	NewJzHatPdl	SquareClick	Concert BD
	33	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	GospelHClp1	Mtrnm.Click	Jingle Bell
	34	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	IPopSRll30_1	Mtrnm. Bell	Bell Tree
	35	TR-707 BD 2	Techno BD2	82Jz BsDrum1	82Jz BsDrum1	Jazz Kick 2	82Br BsDrum1	82Br BsDrum1	NewJzKik	Jazz Kick 1	Bar Chimes
C2	36	TR-707 BD	TR-909 BD2	82Jz BsDrum2	82Jz BsDrum2	Jazz Kick 1	82Br BsDrum2	82Br BsDrum2	NewJzKik	Concert BD	Wadaiko
	37	TR-707 Rim	TR-909 Rim	Side Stick	Side Stick	Side Stick	Side Stick	Side Stick	NewJzSW1	Side Stick	Wadaiko Rim
	38	TR-707 SD	909 SD 1	82Jz Snare1	82Jz Snare1	Brush Swirl	82Br Snare1	82Br Snare1	NewJzSn1	Concert Snr	Shimedaiko
	39	707 Claps	909 HandClap	Hand clap2	Hand clap2	Brush Slap1	82Br Snare2	82Br Snare2	NewJzSW2	Castanets	Atarigane
	40	TR-707 SD 2	TR-909 SD2	82Jz Snare2	82Jz Snare2	Brush Swirl	Brush Swirl	Brush Swirl	NewJzSn2	Concert Snr	Hyoushigi
	41	TR-707 Tom	909 Tom	Real Tom 6	Real Tom 6	Lite Tom 4	Lite Tom 4	Lite Tom 4	NewJzTomLoFl	Timpani	Ohkawa
	42	TR-707 HH-c	TR-707 HH-c	Jazz Clsd.HH	82JzClsHatB	Brs Chh	Brs Chh	82BrClsHatB	NewJzHat1	Timpani	H kotsuzumi
	43	TR-707 Tom	909 Tom	Real Tom 6	Real Tom 6	Lite Tom 4	Lite Tom 4	Lite Tom 4	NewJzTomLo	Timpani	L Kotsuzumi
	44	TR-707 HH-c	TR-707 HH-c	Pedal HiHat	Pedal HiHat	Pedal HiHat	Pedal HiHat	Pedal HiHat	NewJzHat2	Timpani	Ban_Gu
	45	TR-707 Tom	909 Tom	Real Tom 4	Real Tom 4	Lite Tom 4	Lite Tom 4	Lite Tom 4	NewJzTomMFl	Timpani	Big Gong
	46	TR-707 OHH	909 OH	Jazz Open HH	82JzOpenHatB	Brush Ohh	Brush Ohh	82BrOpenHatB	NewJzHat3	Timpani	Small Gong
	47	TR-707 Tom	909 Tom	Real Tom 4	Real Tom 4	Lite Tom 4	Lite Tom 4	Lite Tom 4	NewRkTomMid	Timpani	Bend Gong
C3	48	TR-707 Tom	909 Tom	Real Tom 1	Real Tom 1	Lite Tom 4	Lite Tom 4	Lite Tom 4	NewJzTomHiFl	Timpani	RAMA Cymbal
	49	909 Crash	909 Crash	Crash Cym.1	Crash1c B	Brush Crash	Brush Crash	82BrCrsCym1B	NewJzCrCym1	Timpani	RAMA Cymbal
	50	TR-707 Tom	909 Tom	Real Tom 1	Real Tom 1	Lite Tom 4	Lite Tom 4	Lite Tom 4	NewJzTomHi	Timpani	Gamelan Gong
	51	909 Ride Cym	909 Ride Cym	Ride Cym IN	Ride_i B	Ride Cym IN	Ride Cym IN	82BrRdCymB	NewJzRide1	Timpani	Udo_Short
	52	ChinaCymbal	ChinaCymbal	ChinaCymbal	ChinaCymbal	ChinaCymbal	ChinaCymbal	ChinaCymbal	NewJzCrCym2	Timpani	Udo_Long
	53	Ride Bell	Ride Bell	Ride Bell	Ridbl_c B	Brush RideBL	Brush RideBL	82BrRdBellB	NewJzRide2	Timpani	Udo_slap
	54	344Tambourn	344Tambourn	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine	Bendir
	55	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Req_Dum
	56	808cowbe	808cowbe	Cowbell	Cowbell	Cowbell	Cowbell	Cowbell	ChaChaCBell	Cowbell	Req_tik
	57	Crash Cym.2	Crash Cym.2	Crash Cym.2	Crash Cym.2	Crash Cym.2	Crash Cym.2	Crash Cym.2	NewJzCrCym1	Con.Cymbal2	Tabla_Te
	58	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Tabla_Na
	59	RideCym Edge	RideCym Edge	RideCym Edge	RideCym Edge	RideCym Edge	RideCym Edge	RideCym Edge	NewRkRdCym1	Concert Cym.	Tabla_Tun
C4	60	Bongo High	Bongo High	Bongo High	Bongo High	Bongo High	Bongo High	Bongo High	NewHiBongo	Bongo High	Tabla_Ge
	61	Bongo Lo	Bongo Lo	Bongo Lo	Bongo Lo	Bongo Lo	Bongo Lo	Bongo Lo	NewLoBongo	Bongo Lo	Tabla Ge Hi
	62	Mute H.Conga	Mute H.Conga	Mute H.Conga	Mute H.Conga	Mute H.Conga	Mute H.Conga	Mute H.Conga	NewCongaSlp	Mute H.Conga	Talking Drum
	63	Conga Hi Opn	Conga Hi Opn	Conga Hi Opn	Conga Hi Opn	Conga Hi Opn	Conga Hi Opn	Conga Hi Opn	NewCongaOp	Conga Hi Opn	Bend tlk_drm
	64	Conga Lo Opn	Conga Lo Opn	Conga Lo Opn	Conga Lo Opn	Conga Lo Opn	Conga Lo Opn	Conga Lo Opn	NewLoConga	Conga Lo Opn	Caxixi
	65	High Timbale	High Timbale	High Timbale	High Timbale	High Timbale	High Timbale	High Timbale	NewTmblHi	High Timbale	DJembe
	66	Low Timbale	Low Timbale	Low Timbale	Low Timbale	Low Timbale	Low Timbale	Low Timbale	NewTmblLo	Low Timbale	Djembe_rim
	67	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Low Timbale
	68	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Timbl Paila
	69	Cabasa	Cabasa	Cabasa	Cabasa	Cabasa	Cabasa	Cabasa	NewShaker2	Cabasa	High Timbale
	70	808marac	808marac	Maracas	Maracas	Maracas	Maracas	Maracas	NewShaker1	Maracas	Cowbell
	71	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	Bongo High
C5	72	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	Bongo Lo
	73	Short Guiro	Short Guiro	Short Guiro	Short Guiro	Short Guiro	Short Guiro	Short Guiro	NewQuide1	Short Guiro	Mute H.Conga
	74	Long Guiro	CR78 Guiro	Long Guiro	Long Guiro	Long Guiro	Long Guiro	Long Guiro	NewQuide2	Long Guiro	Conga Hi Opn
	75	Claves	808clave	Claves	Claves	Claves	Claves	Claves	NewClaves	Claves	Conga MtLow
	76	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Conga Slap
	77	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Conga Lo Opn
	78	Hoo	Hoo	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Conga Slide
	79	Hoo	Hoo	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Mut Pandiero
	80	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	Opn Pandiero
	81	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	Open Surdo
	82	626 Shaker	626 Shaker	Shaker	Shaker	Shaker	Shaker	Shaker	Shaker	Shaker	Mute Surdo
	83	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Tamborim
C6	84	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Agogo
	85	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets	Agogo
	86	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Shaker
	87	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Low Whistle
	88	Small Club	Applause 2	Applause	Applause	Applause	Applause	Applause	Cana	Applause	Low Whistle
	89	---	---	---	---	---	---	---	NewTmblHiFlm	---	Mute Cuica
	90	---	---	---	---	---	---	---	NewTmblLoFlm	---	Open Cuica
	91	---	---	---	---	---	---	---	NewTmblPHS	---	MuteTriangl
	92	---	---	---	---	---	---	---	NewShekere1	---	OpenTriangl
	93	---	---	---	---	---	---	---	NewShekere2	---	Short Guiro
	94	---	---	---	---	---	---	---	NHBngoMute	---	Long Guiro
	95	---	---	---	82Jz BsDrum1	---	---	82Br BsDrum1	NewLBngoMute	---	Cabasa Up
C7	96	---	---	---	82Jz BsDrum2	---	---	82Br BsDrum2	CajonHi	---	Cabasa Down

		PC: 51 [CC32: 4] KICK & SNARE	PC: 52 [CC32: 4] KICK&SNARE 2	PC: 53 [CC32: 4] ASIA	PC: 54 [CC32: 4] CYMBAL&CLAPS	PC: 55 [CC32: 4] GAMELAN 1	PC: 56 [CC32: 4] GAMELAN 2	PC: 57 [CC32: 4] SFX	PC: 58 [CC32: 4] RHYTHM FX	PC: 59 [CC32: 4] RHYTHM FX 2	PC: 60 [CC32: 4] RHYTHM FX 3
C–1	0	---	---	---	---	---	---	---	---	---	---
	1	---	---	---	---	---	---	---	---	---	---
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C0	12	---	---	---	---	---	---	---	---	---	---
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	14	---	---	---	---	---	---	---	---	---	---
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	16	---	---	---	---	---	---	---	---	---	---
	17	---	---	---	---	---	---	---	---	---	R Bs Mute NZ
	18	---	---	---	---	---	---	---	---	---	R Bs StQuail
	19	---	---	---	---	---	---	---	---	---	R Bs Atk NZ
	20	---	---	---	---	---	---	---	---	---	R ClnGtCutUp
	21	---	---	---	---	---	---	MC-500 Beep	---	---	R ClnGtCutDn
	22	---	---	---	---	---	---	MC-500 Beep	---	---	R ClnGtrMtUp
	23	---	---	---	---	---	---	ytwn3.xtp	---	---	R ClnGtrMtDn
C1	24	---	---	---	---	---	---	ytwn2.xtp	---	---	R DstGtCutUp
	25	CR78 BD 1	CR78 BD 1	Gamelan Gong	---	---	---	Guitar Slap	---	---	R DstGtCutDn
	26	CR78 BD 2	CR78 BD 2	Gamelan Gong	---	---	---	Chord Stroke	---	---	R DstGtrSgdn
	27	TR-606 BD1	TR-606 BD1	Gamelan Gong	---	---	---	Chord Stroke	---	---	R DstGtrMute
	28	TR-707 BD	TR-707 BD	Gamelan Gong	---	---	---	Biwa 3	---	---	R SlGtrSdNz1
	29	808 BD	808 BD	Gamelan Gong	---	---	---	Phono Noise	---	---	R SlGtrSdNz2
	30	909 Comp BD	909 Comp BD	Gamelan Gong	---	---	---	TapeRewind	---	---	R SlGtrSdNz3
	31	TR-909 BD2	TR-909 BD2	Gamelan Gong	---	---	---	Scrtch Push2	---	---	R SlGtrSdNz4
	32	HipHop BD2	HipHop BD2	Gamelan Gong	rev.lvohh	---	---	Scrtch Pull2	---	---	R SlGtrStkSD
	33	HipHop BD1	HipHop BD1	Gamelan Gong	Rev. LVCHH 1	---	---	Gt.CutNoise2	---	---	R SlGtrStkU1
	34	Jungle BD2	Jungle BD2	Gamelan Gong	Rev. LVCHH 2	---	---	Gt.CutNoise2	---	---	R SlGtrStkD1
	35	JungleBD Set	JungleBD Set	Gender	Jungle HH	---	---	Dist.CutNoiz	---	---	R SlGtrStkU2
C2	36	Techno BD2	Techno BD2	Gender	Close HiHat	KendangWadon	KendangWadon	Dist.CutNoiz	Rev.Kick 1	rev.707bd	R SlGtrStkD2
	37	Techno BD1	Techno BD1	Gender	Jazz Clsd.HH	KendangWadon	KendangWadon	Bass Slide	Rev.ConBD	rev.909bd2	R Tbone NZ
	38	Mix Kick	Mix Kick	Gender	Room Chh	Bebarongan	Bebarongan	Pick Scrape	Rev.PowerK1	rev.hphp_bd1	R Tpet NZ
	39	Standard KK1	Standard KK1	Gender	Close HiHat1	Pelegongan	Pelegongan	High-Q	Rev.Elec.K1	rev.jgl_bd2	R St BsDrum1
	40	Std.1 Kick1	85St BsDrum1	Bonang	Close HiHat2	Kelontuk	Kelontuk	Slap	Rev.Snare 1	rev.tech_bd2	R St BsDrum2
	41	Std.1 Kick2	85St BsDrum2	Bonang	TR-707 HH-c	Kelontuk Mt	Kelontuk Mt	ScratchPush	Rev.Snare 2	rev.606sn2	R Rm BsDrum1
	42	Std.2 Kick1	82Br BsDrum1	Bonang	606 CH	Kelontuk Sid	Kelontuk Sid	ScratchPull	Rev.Std1SD1	rev.cr78sd1	R Rm BsDrum2
	43	Std2 Kick2	82Br BsDrum2	Bonang	808__chh	Gong Wadon	Gong Wadon	Sticks	Rev.TightSD	rev.cr78sd2	R Jz BsDrum1
	44	Kick 1	82Jz BsDrum1	Bonang	TR-808 CHH	Gong Lanang	Gong Lanang	SquareClick	Rev.DanceSD	rev.jgl_sd2	R Jz BsDrum2
	45	Kick 2	82Jz BsDrum2	RAMA Cymbal	CR-78 chh	Ceng Ceng	Ceng Ceng	Mtrnm.Click	Rev.808SD	rev.tech_sd2	R Br BsDrum1
	46	Soft Kick	TR-909 BD2	RAMA Cymbal	GS Pedal HH	Kopyak Op	Kopyak Op	Mtrnm. Bell	Rev.Tom 1	rev.707sd	R Br BsDrum2
	47	Jazz Kick 1	909 Comp BD	Sagat R	Pedal HiHat	Kopyak Mt	Kopyak Mt	Gt.FretNoiz	Rev.Tom 2	rev.606sn1	rev.hphp_bd1
C3	48	Jazz Kick 2	ConcertBD Mt	Sagat L-c	Pedal HiHat2	Kajar	Kajar	Gt.CutNoise	Rev.Sticks	rev.909sd1	rev.707bd
	49	Concert BD	Concert BD	Jaw Harp Wow	Half OpenHH1	Kempur	Kempur	Gt.CutNoise	Rev.Slap	rev.hphp_sd2	rev.jgl_bd2
	50	Room Kick 1	85Rm BsDrum1	Wadaiko	Half OpenHH2	Jegogan	Jegogan	String Slap	ReverseCymbl	rev.jgl_sd1	rev.707bd
	51	Room Kick 2	85Rm BsDrum2	Wadaiko Rim	Open Hi Hat	Jegogan33up	Jegogan40up	Fl.KeyClick	Rev.Cymbal2	Rev House SD	Rev.Kick 1
	52	Power Kick1	HipHop BD1	Taiko	Jazz Open HH	Jegogan33dw	Jegogan20dw	Laughing	Rev.Open HH	Rev. LVCHH 1	rev.909bd2
	53	Power Kick2	Std2 Kick2	Shimedaiko	R8 Ohh2	Jegogan33dw	Jegogan20up	Screaming	Rev.RideCym.	rev.606htcl	rev.hphp_bd1
	54	Elec Kick 2	Jngl BD Roll	Atarigane	Open HiHat2	Jegogan	Jegogan40up	Punch	Rev.CR-78OHH	rev.707chh	rev.909bd2
	55	Elec Kick 1	TR-909 BD2	Hyoushigi	909 OH	Jublag	Jublag	Heart Beat	Rev.Clsd.HH	rev.808chh	rev.tech_bd2
	56	Elec. Kick	Techno BD2	Ohkawa	TR-707 OHH	Jublag33up	Jublag40up	Footsteps	Rev.BendGong	rev.jgl_hh	R St Snare2
	57	TR-808 Kick	Techno BD1	H kotsuzumi	606 HiHat Op	Jublag33dw	Jublag20dw	Footsteps	Rev.Belltree	rev.344tmb2	R St Snare1
	58	TR-909 Kick	HipHop BD2	L Kotsuzumi	808__ohh	Jublag33dw	Jublag20up	Applause	Rev.Guiro	rev.344tmb3	R Rm Snare2
	59	Dance Kick 2	TR-909 BD2	Yyoo Dude	TR-808 OHH	Jublag	Jublag40up	Creaking	Rev.Bendir	rev.808ohh	R Rm Snare1
C4	60	Std.1 Snare1	85St Snare2	Buk_f	CR-78 ohh	Penyacah33dw	Penyacah20up	Door	Rev.GunShot	rev.707ohh	R Jz Snare1
	61	Std.1 Snare2	85St Snare1	Buk_r	Crash Cym.1	Penyacah	Penyacah40up	Scratch	Rev.Scratch	rev.lvohh	R Jz Snare2
	62	Std.2 Snare1	Std.2 Snare1	Gengari_p	Crash Cym.2	Penyacah	Penyacah	Wind Chimes	Rev.Lasergun	rev.606cym	R Br Snare1
	63	Std.2 Snare2	Std.2 Snare2	Gengari_m	GS Crash	Penyacah33up	Penyacah40up	Car-Engine	Click	Rev. HynLuo	R Br Snare2
	64	Tight Snare	Tight Snare	Gengari_f	Brush Crash	Penyacah33dw	Penyacah20dw	Car-Stop	Tekno Thip	rev.707fx	R Br Snare1
	65	Concert Snr	Concert Snr	Gengari_m	Hard Crash	Penyacah33dw	Penyacah20up	Car-Pass	Pop Drop	Voice One	Rev.Snare 1
	66	Jazz Snare 1	82Jz Snare1	Gengari S	909 Crash	Penyacah	Penyacah40up	Car-Crash	Wood Slap	rev.one	R St Snare2
	67	Jazz Snare 2	82Jz Snare2	Jang-Gu_c	808 Crash	Pemade33up	Pemade40up	Siren	Dist.Kick	Voice Two	rev.606sn2
	68	Room Snare 1	82Rm Snare2	Jang-Gu_k	Crash Mute 1	Pemade33dw	Pemade20dw	Train	Syn.Drops	rev.two	R Rm Snare2
	69	Room Snare 2	82Rm Snare1	Jang-Gu_r	Crash Mute 2	Pemade33dw	Pemade20up	Jetplane	Rev.Hi-Q	Voice Three	Rev House SD
	70	Dance Snare1	Rap Snare	Jing_p	ReverseCymbl	Pemade	Pemade20up	Helicopter	ShrtWhistle	rev.three	rev.hphp_sd2
	71	Power Snare1	House SD	Jing_f	Rev.Cymbal2	Pemade	Pemade	Starship	Ice Block	Voice Tah	rev.606sn1
C5	72	Rev.Snare	Rev.Snare	Jing_m	Reverse Cym.	Pemade33up	Pemade40up	Gun Shot	Digi Tambrn.	rev.tah	rev.hphp_sd2
	73	Power Snare2	Power Snare2	Asian Gong 1	rev.tra_crsm	Pemade33dw	Pemade20dw	Machine Gun	Alias	Voice 1	R Jz Snare2
	74	Elec Snare 1	Elec Snare 1	Big Gong	Crash Cym.1	Pemade33dw	Pemade20up	Lasergun	Mod.Bell	Voice Au	Rev.Snare 1
	75	Dance Snare2	Dance Snare1	Small Gong	Splash Cym.	Pemade	Pemade20up	Explosion	Tambourine	Voice Whey	Rev.808SD
	76	Elec Snare 2	Rap Snare	Pai Ban	Ride Bell	Pemade33up	Pemade	Dog	Metalic Perc	Frog Vpoce	Rev House SD
	77	House Snare	Dance Snare1	Ban_Gu	Brush RideBL	Reyong33dw	Reyong20dw	HorseGallop	Velo FX Noiz	rev.yyooh	Rev.Hi-Q
	78	Elec. Snare	66sn260	tangu60	Ride Cymbal	Reyong33dw	Reyong20up	Bird	St.NoiseClap	Douby	Rev.DanceSD
	79	Elec Snare 3	909 SD 1	tanmt60	Ride Cymbal	Reyoung	Reyong20up	Rain	Swish	rev.douby	Rev.Tom 1
	80	808 Snare 1	Elec Snare 2	Bend Gong L	Brush Ride	Reyoung	Reyoung	Thunder	Noise Slap	Baert	Rev.Tom 1
	81	808 Snare 2	Power Snare1	Bend Gong	Ride Cym IN	Reyong33up	Reyong40up	Wind	Voice 1	Baert	Rev.Tom 1
	82	909 Snare 1	House SD	Huyin Luo L	Ride Cym IN	Reyong33dw	Reyong20dw	Seashore	Voice Au	Bounce	R 606 Tom
	83	909 Snare 2	Jngl SD Roll	hynlo60	Ride Cym IN	Reyong33dw	Reyong20up	Stream	Hoo	rev.bounce	R Jngl Crash
C6	84	Brush Swirl	Brush Swirl	Huyin Luo Mt	RideCym Edge	Reyoung	Reyong40up	Bubble	Tape Stop 1	Dist Knock	Rev. LVCHH 1
	85	Brush Tap	Brush Tap	Hu yin Luo H	RideCym Edge	Reyoung	Reyoung	Kitty	Tape Stop 2	ytwn3.xtp	Rev. LVCHH 1
	86	Brush Slap1	82Br Snare1	Hynlo mute	RideCym Edge	Reyong33up	Reyong40up	Bird 2	Missile	xxx	Rev.CR-78OHH
	87	Brush Slap2	82Br Snare2	naobo60	606 Ride Cym	Reyong33dw	Reyong20dw	Growl	Space Birds	Noise Attack	Rev. LVCHH 1
	88	Brush Slap	Brush Slap	xaobo60	TR808 Ride	Reyong33dw	Reyong20up	Applause 2	FlyingMonstr	SpaceWorms	R Stab! 1
	89	Brush Swirl	Brush Swirl	Dholak 1	ChinaCymbal	---	---	Telephone 1	---	Emergency!	R Bounce
	90	Brush Swirl	Brush Swirl	Dholak 2	Chaina Cym2	---	---	Telephone 2	---	Calculating	R St Snare2
	91	Long Swirl	Long Swirl	---	Hand Clap	---	---	Small Club	---	SawLFOSaw	R Br Snare1
	92	Standard SN1	Standard SN1	---	Hand clap2	---	---	Small Club 2	---	---	rev.hphp_sd2
	93	LD Snare M	LD Snare M	---	808clap	---	---	ApplauseWave	---	---	Shaker
	94	LD Snare C	LD Snare C	---	909 HandClap	---	---	Eruption	---	---	Rev.Slap
	95	Rap Snare	Rap Snare	---	HC2 Claps 2	---	---	Big Shot	---	---	R Clap Hit
C7	96	HipHop SD2	HipHop SD2	---	707 Claps	---	---	Perc. Bang	---	---	R Boeeeen

		PC: 30 [CC32: 4] TR-707	PC: 31 [CC32: 4] TR-909	PC: 33 [CC32: 4] JAZZ	PC: 34 [CC32: 4] JAZZ L/R	PC: 41 [CC32: 4] BRUSH	PC: 42 [CC32: 4] BRUSH 2	PC: 43 [CC32: 4] BRUSH 2 L/R	PC: 44 [CC32: 4] V-JazzBrush	PC: 49 [CC32: 4] ORCHESTRA	PC: 50 [CC32: 4] ETHNIC
(C7)	(96)	---	---	---	82Jz BsDrum2	---	---	82Br BsDrum2	CajonHi	---	Cabasa Down
	97	Techno Hit	Techno Hit	---	Crash Cym.1	---	---	Brush Crash	CajonHiFlm	Applause 2	Claves
	98	Philly Hit	Philly Hit	82Br Snare1	82Jz Snare1	---	82Jz Snare1	82Br Snare1	CajonLo	Small Club	Woodblock
	99	Shock Wave	Shock Wave	82Br Snare2	Ride Cym IN	---	82Jz Snare2	Ride Cym IN	CajonLoFlm	Timpani	Woodblock
	100	Lo Fi Rave	Lo Fi Rave	Brush Swirl	82Jz Snare2	Brush Swirl	Brush Swirl	82Br Snare2	FlmncoHClp1	Timpani	---
	101	Bam Hit	Bam Hit	Brush Tap	Real Tom 6	Brush Tap	Brush Tap	Lite Tom 4	FlmncoHClp1	Timpani	---
	102	Bim Hit	Bim Hit	Brush Slap1	Jazz Clsd.HH	Brush Slap1	Brush Slap1	Brs Chh	BongoCowBell	Timpani	---
	103	TapeRewind	TapeRewind	Brush Slap2	Real Tom 4	Brush Slap2	Brush Slap2	Lite Tom 4	AfHey	Timpani	---
	104	Phono Noise	Phono Noise	Brush Slap	Ride Bell	Brush Slap	Brush Slap	Brush RideBL	MamboCowBell	Timpani	---
	105	Dance Snare1	Dance Snare1	Brush Swirl	Real Tom 1	Brush Swirl	Brush Swirl	Lite Tom 4	MexFVox2	Timpani	---
	106	Power Snare2	Power Snare2	Brush Swirl	Jazz Open HH	Brush Swirl	Brush Swirl	Brush Ohh	AfFoots	Timpani	---
	107	Elec Snare 1	Elec Snare 1	Long Swirl	82JzBsDrum1P	Long Swirl	Long Swirl	82BrBsDrum1P	MexFVox1	Timpani	---
C8	108	Dance Snare2	Dance Snare2	Jazz Snare 1	82JzBsDrum2P	Jazz Snare 1	Jazz Snare 1	82BrBsDrum2P	MexMVox1	Timpani	---
	109	Elec Snare 2	Elec Snare 2	Jazz Snare 2	82JzCrsCym1P	Jazz Snare 2	Jazz Snare 2	82BrCrsCym1P	YodelFVox1	Timpani	---
	110	Elec. Snare	Elec. Snare	Std.1 Snare1	82Jz Snare1P	Std.1 Snare1	Std.1 Snare1	82Br Snare1P	MexMVox2	Timpani	---
	111	Elec Snare 3	Elec Snare 3	Std.1 Snare2	Ride_i P	Std.1 Snare2	Std.1 Snare2	82Br RdCym P	YodelMVox1	Timpani	---
	112	66sn260	66sn260	Std.2 Snare1	82Jz Snare2P	Std.2 Snare1	Std.2 Snare1	82Br Snare2P	MexMVox3	Timpani	---
	113	TR-707 SD	TR-707 SD	Std.2 Snare2	Real6_t P	Std.2 Snare2	Std.2 Snare2	Lite4_t P	FlmncoFVox1	Timpani	---
	114	808 Snare 1	808 Snare 1	Tight Snare	82Jz ClsHatP	Tight Snare	Tight Snare	82BrClsHat P	YodelFVox2	---	---
	115	808 Snare 2	808 Snare 2	Standard SN1	Real4_t P	Standard SN1	Standard SN1	Lite4_t P	FlmncoFVox2	---	---
	116	TR-808 SD2	TR-808 SD2	LD Snare M	Ridbl_c P	LD Snare M	LD Snare M	82Br RdBellP	NewWhistle1	---	---
	117	909 Snare 1	909 Snare 1	LD Snare C	Real1_t P	LD Snare C	LD Snare C	Lite4_t P	FlmncoFVox3	---	---
	118	909 Snare 2	909 Snare 2	Room Snare 1	82JzOpenHatP	Room Snare 1	Room Snare 1	82BrOpenHatP	NewWhistle2	---	---
	119	909 SD 1	909 SD 1	Room Snare 2	---	Room Snare 2	Room Snare 2	---	FlmncoMVox1	---	---
C9	120	TR-909 SD2	TR-909 SD2	Dance Snare1	---	Dance Snare1	Dance Snare1	---	FlmncoMVox2	---	---
	121	Rap Snare	Rap Snare	Power Snare1	---	Power Snare1	Power Snare1	---	BrazilVox1	---	---
	122	JungleSD1	JungleSD1	Rev.Snare	---	Rev.Snare	Rev.Snare	---	FlmncoMVox3	---	---
	123	House SD	House SD	Power Snare2	---	Power Snare2	Power Snare2	---	BrazilVox2	---	---
	124	House Snare	House Snare	Elec Snare 1	---	Elec Snare 1	Elec Snare 1	---	BrazilVox3	---	---
	125	House SD	House SD	Dance Snare2	---	Dance Snare2	Dance Snare2	---	AfAahhh	---	---
	126	Voice Tah	Voice Tah	Elec Snare 2	---	Elec Snare 2	Elec Snare 2	---	p33137v	---	---
G9	127	Noise Slap	Noise Slap	Elec Snare 3	---	Elec Snare 3	Elec Snare 3	---	p33168v	---	---

		PC: 51 [CC32: 4] KICK & SNARE	PC: 52 [CC32: 4] KICK & SNARE 2	PC: 53 [CC32: 4] ASIA	PC: 54 [CC32: 4] CYMBAL&CLAPS	PC: 55 [CC32: 4] GAMELAN 1	PC: 56 [CC32: 4] GAMELAN 2	PC: 57 [CC32: 4] SFX	PC: 58 [CC32: 4] RHYTHM FX	PC: 59 [CC32: 4] RHYTHM FX 2	PC: 60 [CC32: 4] RHYTHM FX 3
(C7)	(96)	HipHop SD2	HipHop SD2	---	707 Claps	---	---	Perc. Bang	---	---	R Boeeeen
	97	JungleSD1	JungleSD1	---	---	---	---	---	---	---	R Bounce
	98	Jungle SD2	Jungle SD2	---	---	---	---	---	---	---	R CD Tray
	99	Slap	Slap	---	---	---	---	---	---	---	R Drill
	100	MG_Blip	MG_Blip	---	---	---	---	---	---	---	R Glass Stir
	101	House SD	House SD	---	---	---	---	---	---	---	R Ice Ring
	102	CR78 SD 1	CR78 SD 1	---	---	---	---	---	---	---	R KInzapcm
	103	CR78 SD 2	CR78 SD 2	---	---	---	---	---	---	---	R Scratch 4
	104	66sn160	66sn160	---	---	---	---	---	---	---	R Scratch 5
	105	66sn260	66sn260	---	---	---	---	---	---	---	R Scratch 6
	106	TR-707 SD	TR-707 SD	---	---	---	---	---	---	---	R Scratch 7
	107	TR-707 SD 2	TR-707 SD 2	---	---	---	---	---	---	---	R Seal
C8	108	TR-707 SD 3	TR-707 SD 3	---	---	---	---	---	---	---	R Stab! 1
	109	TR-808 SD2	TR-808 SD2	---	---	---	---	---	---	---	R Stab! 2
	110	909 SD 1	909 SD 1	---	---	---	---	---	---	---	R Swrd Boom!
	111	TR-909 SD2	TR-909 SD2	---	---	---	---	---	---	---	R Swrd Cross
	112	---	---	---	---	---	---	---	---	---	R Thrill Hit
	113	---	---	---	---	---	---	---	---	---	R Audio Sw
	114	---	---	---	---	---	---	---	---	---	R Typing 1
	115	---	---	---	---	---	---	---	---	---	R Typing 2
	116	---	---	---	---	---	---	---	---	---	R Typing 3
	117	---	---	---	---	---	---	---	---	---	R Typing 4
	118	---	---	---	---	---	---	---	---	---	R Typing 5
	119	---	---	---	---	---	---	---	---	---	R Typing 6
C9	120	---	---	---	---	---	---	---	---	---	---
	121	---	---	---	---	---	---	---	---	---	---
	122	---	---	---	---	---	---	---	---	---	---
	123	---	---	---	---	---	---	---	---	---	---
	124	---	---	---	---	---	---	---	---	---	---
	125	---	---	---	---	---	---	---	---	---	---
	126	---	---	---	---	---	---	---	---	---	---
G9	127	---	---	---	---	---	---	---	---	---	---

		PC: 61 [CC32: 4] SFX 2	PC: 63 [CC32: 4] CYM&CLAPS 2	PC: 64 [CC32: 4] V-VoxDrum	PC: 117 [CC32: 3] Oriental 3	PC: 32 [CC32: 4] MultiDrum	PC: 65 [CC32: 4] Or. R&B	PC: 66 [CC32: 4] Or. Techno	PC: 117 [CC32: 4] Oriental 4
C–1	0	---	---	HipHop BD1	---	IPopCyml2_52	House Kick	House Kick	---
	1	---	---	Jazz Kick 1	---	IPopRd1_51	HipHop Kick	HipHop Kick	---
	2	---	---	p05002v	---	R&B Snare	TR-808 Kick	SimpleKick	---
	3	---	---	85Rm BsDrum1	---	R&B Clap	909 Kick2	909 Kick2	---
	4	---	---	85Rm BsDrum2	---	Techno Snare	HipHopSnare2	HipHopSnare2	---
	5	---	---	HipHop BD2	---	House Snare	Techno Snare	Techno Snare	---
	6	---	---	Techno BD1	---	Jungle Snare	TR-808 SD2	R&B Snare	---
	7	---	---	JungleBD Set	---	Ps Snare	R&B Clap	R&B Clap	---
	8	---	---	HipHop BD1	---	909 Snare	707 Claps	707 Claps	---
	9	---	---	909 Comp BD	---	909Snare2	344Tambourn	344Tambourn	---
	10	---	---	85St BsDrum1	---	909 Kick 3	R&B OHHsh	TR-909 OHHsh	---
	11	---	---	NewJzKik	---	House Kick	R&B OHH	TR-909 OHH	---
C0	12	---	---	NewRockKik	Wadaiko	TR-808 Kick	Wadaiko	Wadaiko	---
	13	---	---	Cymbal Roll	Ohkawa	909 Kick	Ohkawa	Ohkawa	---
	14	---	---	NewRkCStk_2	Shimedaiko	909 Kick2	Shimedaiko	Shimedaiko	---
	15	---	---	82Rm Snare1	H kotsuzumi	TR-909 OHHsh	H kotsuzumi	H kotsuzumi	---
	16	---	---	82Rm Snare2	L Kotsuzumi	TR-909 OHH	L Kotsuzumi	L Kotsuzumi	---
	17	---	---	85St Snare1	Tabla_Ge	Ah	Tabla_Ge	Tabla_Ge	---
	18	---	---	85St Snare2	Tabla_Na	Ha	Tabla_Na	Tabla_Na	---
	19	---	---	NewJzSn2	Tabla_Te	ShutHa	Tabla_Te	Tabla_Te	---
	20	---	---	NewJzSn1	Tabla_Tun	ShutHi	Tabla_Tun	Tabla_Tun	---
	21	---	---	NewR&BSn	Udo_Long	One	Udo_Long	Udo_Long	---
	22	---	---	NewRockSn2_2	Djembe_rim	Two	Djembe_rim	Djembe_rim	---
	23	---	---	NewRockSn1_2	909 HandClap	Three	909 HandClap	909 HandClap	---
C1	24	---	---	IPopSn38_2	Tambourine	Four	Tambourine	Tambourine	---
	25	---	---	IPopGstS39_2	ChaChaCBell	Snare Roll	IPopHat1_42	IPopHat1_42	---
	26	---	---	IPopSn38_2	Agogo	FingerSnaps2	IPopHat2_44	IPopHat2_44	---
	27	---	---	FingerSnaps2	Agogo	High-Q	IPopHat3_46	IPopHat3_46	---
	28	---	---	909 HandClap	NewShaker2	Slap	NewShaker2	NewShaker2	---
	29	---	---	808clap	NewShaker1	Scrtch Push2	NewShaker1	NewShaker1	---
	30	---	---	Hand clap2	IPopSn40_1	Scrtch Pull2	IPopSn40st	IPopSn40st	---
	31	A.Bs.Mute Nz	---	909 HandClap	Elec Snare 2	Sticks	HipHop Snare	HipHop Snare	---
	32	A.Bs.TouchNz	Rev. LVCHH 2	IPopPHat32	909 Snare 2	SquareClick	Jungle Snare	Jungle Snare	---
	33	A.Bs.AtackNz	Rev. LVCHH 2	GospelHClp1	909 Snare 1	Mtrnm.Click	House Snare	House Snare	---
	34	DstGT.MuteNz	Rev. LVCHH 2	p35010v	Elec Kick 2	Mtrnm. Bell	808 BD	Techno BD2	---
	35	StlGt.SldNz1	Rev. LVCHH 2	p05006v	TR-909 BD2	HipHop Kick	909 Kick 3	TR-909 BD2	TR-707 BD
C2	36	StlGt.SldNz2	Close HiHat2	p33079v	Std.2 Kick1	SimpleKick	SimpleKick	909 Kick	TR-707 BD
	37	StlGt.SldNz3	Jazz Clsd.HH	p33146v	IPopCStk37_1	Side Stick	Side Stick	TR-909 Rim	TR-707 Rim
	38	StlGt.SldNz4	Close HiHat2	p32011v	IPopSn38_1	HipHop Snare	R&B Snare	909 SD 1	TR-707 SD
	39	Gt.StrokeNz1	Room Chh	p43001v	HandClap1st	707 Claps	HandClap1st	HandClap1st	Hand Clap 2
	40	Gt.StrokeNz2	TR-707 HH-c	p33137v	Hand Clap 21	HipHopSnare2	Hand Clap 21	Hand Clap 21	TR-707 SD
	41	Gt.StrokeNz3	606 CH	p33168v	TR-707 SD	85St Tom16	909Snare2	TR-909 SD2	Tom
	42	Gt.StrokeNz4	TR-808 CHH	p33012v	Jazz Clsd.HH	HipHopCHH	R&B CHH	TR-707 HH-c	TR-707 HH-c
	43	Gt.StrokeNz5	CR-78 chh	p34001v	Real Tom 6	85St Tom16	IPopKik36	IPopKik36	Tom
	44	Open CD Tray	GS Pedal HH	p33014v	Pedal HiHat	HipHopCHH	R&B CHH	TR-707 HH-c	TR-707 HH-c
	45	Audio Switch	Pedal HiHat	p33157v	Real Tom 4	85St Tom12	IPopCStk37st	909 Tom	Tom
	46	Key Typing 1	Pedal HiHat2	p33019v	Jazz Open HH	HipHopOHH	R&B OHH	909 OH	TR-707 HH-o
	47	Key Typing 2	Half OpenHH1	p33164v	Real Tom 4	85St Tom12	IPopTomL43	909 Tom	Tom
C3	48	Key Typing 3	Half OpenHH2	p33159v	IPopTomL43	85St Tom10	IPopTomM47	909 Tom	Tom
	49	Key Typing 4	Open HiHat2	p35029v	Crash Cym.1	85St CrsCym1	IPopCyml2_52	909 Crash	TR-707 Crash
	50	Key Typing 5	Open HiHat2	p33158v	IPopTomM47	85St Tom10	IPopTomH50	909 Tom	Tom
	51	Key Typing 6	Open Hi Hat	p43002v	NewRkRdCym1	85St RdCym	IPopRd1_51	909 Ride Cym	Ride Cymbal
	52	BabyLaughing	Jazz Open HH	cym013v	IPopRd2_55	ChinaCymbal	IPopCym1_49	ChinaCymbal	Dholla2 Dom2
	53	Clap Hit	909 OH	p45002v	Dholla Dom	85St RdBell	Dholla Dom	Dholla Dom	Dholla 2 Sak
	54	Stab! 1	TR-707 OHH	p36017v	Dholla Sak 1	Tambourine	Dholla Sak 1	Dholla Sak 1	Tambourine
	55	Stab! 2	606 HiHat Op	p34109v	Dholla Sak 2	Splash Cym.	Dholla Sak 2	Dholla Sak 2	Dholla2 Rim1
	56	Bounce Hit	TR-808 OHH	p36019v	Dholla Sak 3	Cowbell	Dholla Sak 3	Dholla Sak 3	Cowbell
	57	Boeeeen	CR-78 ohh	p44001v	Dholla Rim	Crash Cym.2	Dholla Rim	Dholla Rim	Dholla2 RimC
	58	Glass & Glam	Crash Cym.1	p36009v	Dholla Raka	Vibraslap	Dholla Raka	Dholla Raka	Cabasa
	59	Ice Ring	GS Crash	AfAahhh	Dholla Tak 1	Ride Cymbal	Dholla Tak 1	Dholla Tak 1	Doff 2 Dom 2
C4	60	Crack Bottle	Hard Crash	NewHiBongo	Dholla Tak 2	Bongo High	Dholla Tak 2	Dholla Tak 2	Doff2 Sak 1B
	61	Pour Bottle	Brush Crash	NewLoBongo	DofDom 1	Bongo Lo	DofDom 1	DofDom 1	Low Bongo
	62	Soda	Hard Crash	NewCongaSlp	DofDom 2	Mute H.Conga	DofDom 2	DofDom 2	Doff 2 Sak 2
	63	Car Engine 2	909 Crash	NewCongaOp	DofDom 3	Conga Hi Opn	DofDom 3	DofDom 3	High Bongo
	64	Car Horn	Jngl Crash	NewLoConga	DofTak 1	Conga Lo Opn	DofTak 1	DofTak 1	Doff 2 Rim 3
	65	R.Crossing	808 Crash	NewTmblHi	DofTak 2	High Timbale	DofTak 2	DofTak 2	Tabla1 Dom 2
	66	SL 1	Crash Mute 2	NewTmblLo	DofSak 1	Low Timbale	DofSak 1	DofSak 1	Tabla Roll
	67	SL 2	Crash Mute 1	Agogo	DofRim 1	Agogo	DofRim 1	DofRim 1	Tabla 2 Sak
	68	Over Blow	Crash Mute 2	Agogo	DofSak 2	Agogo	DofSak 2	DofSak 2	Tabla Fx
	69	Sword Boom!	Crash Mute 2	NewShaker2	DofRim 2	Cabasa	DofRim 2	DofRim 2	Tabla2 Tak1D
	70	Sword Cross	Crash Mute 1	NewShaker1	DofSak 3	Maracas	DofSak 3	DofSak 3	Tabla 2 Tik
	71	Industry Hit	Crash Mute 2	ShrtWhistle	DofFinger 1	ShrtWhistle	DofFinger 1	DofFinger 1	Tabla2 Rim 2
C5	72	Drill Hit	rev.tra_crsm	LongWhistle	DofFinger 2	LongWhistle	DofFinger 2	DofFinger 2	Rek 2 Dom 1B
	73	Compresser	rev.tra_crsm	NewQuide1	Tabla Raka 1	Short Guiro	Tabla Raka 1	Tabla Raka 1	Rek 2 Rim 2
	74	Thrill Hit	Reverse Cym.	NewQuide2	Tabla Tak 1	Long Guiro	Tabla Tak 1	Tabla Tak 1	Rek Dom 1
	75	Explosion 2	rev.tra_crsm	NewClaves	Tabla Tik 1	Claves	Tabla Tik 1	Tabla Tik 1	Rek 2 Tak 1
	76	Seal	Splash Cym.	Woodblock	Tabla Dom	Woodblock	Tabla Dom	Tabla Dom	Rek 2 Tak 2C
	77	Fancy Animal	Ride Bell	Woodblock	Tabla Sak	Woodblock	Tabla Sak	Tabla Sak	Rek 2 Sak 1
	78	Cricket	Ride Bell	Mute Cuica	Tabla Roll	Mute Cuica	Tabla Roll	Tabla Roll	Hager 2
	79	Baert	Ride Bell	Open Cuica	Tabla Tak 2	Open Cuica	Tabla Tak 2	Tabla Tak 2	Rek2Khan Cl2
	80	Frog Vpoce	Brush RideBL	MuteTriangl	Tabla Raka 2	MuteTriangl	Tabla Raka 2	Tabla Raka 2	Zir 2
	81	Wind 2	Ride Cymbal	OpenTriangl	Tabla Rim 1	OpenTriangl	Tabla Rim 1	Tabla Rim 1	Rek2Khan Op2
	82	Scratch 3	Ride Cymbal	Shaker	Tabla Toks	Shaker	Tabla Toks	Tabla Toks	Rek 2 Roll
	83	Scratch 4	Ride Cymbal	Jingle Bell	Tabla Rim 2	Jingle Bell	Tabla Rim 2	Tabla Rim 2	Rek 2 Sak 1
C6	84	Scratch 5	Brush Ride	Bell Tree	Tabla Tik 2	Bell Tree	Tabla Tik 2	Tabla Tik 2	Sagat Mid
	85	Scratch 6	606 Ride Cym	Castanets	Rek Raka	Castanets	Rek Raka	Rek Raka	Sagat Hi
	86	Scratch 7	TR808 Ride	Mute Surdo	Rek Dom	Mute Surdo	Rek Dom	Rek Dom	Sagat Sak
	87	Noise Attack	ChinaCymbal	Open Surdo	Rek Trill	Open Surdo	Rek Trill	Rek Trill	Jingle Bell L
	88	Bounce	Chaina Cym2	Cana	Rek Tak 1	ReverseCymbl	Rek Tak 1	Rek Tak 1	ZaghroutaSm3
	89	Dist Knock	Hand clap2	NewTmblHiFlm	Rek Rim	Hoo	Rek Rim	Rek Rim	ZaghroutaEd3
	90	xxx	HC2 Claps 2	NewTmblLoFlm	Rek Brass 1	Hoo	Rek Brass 1	Rek Brass 1	TablaNurDom3
	91	---	808clap	NewTmblPHS	Rek Tok	MuteTriangl	Rek Tok	Rek Tok	Nakrazhan 1
	92	---	808clap	NewShekere1	Rek Brass 2	OpenTriangl	Rek Brass 2	Rek Brass 2	TablaNurRim2
	93	---	HC2 Claps 2	NewShekere2	Rek Tak 2	MuteTriangl	Rek Tak 2	Rek Tak 2	Nakrazhan 2
	94	---	909 HandClap	NHBngoMute	Rek Sak	OpenTriangl	Rek Sak	Rek Sak	TablaNurTak3
	95	---	HC2 Claps 2	NewLBngoMute	Rek Tik	808 Tom 2	Rek Tik	Rek Tik	TR-707 BD
C7	96	---	707 Claps	CajonHi	Mazhar Dom	808 Tom 2	Mazhar Dom	Mazhar Dom	Hand Clap 1

		PC: 61 [CC32: 4] SFX 2	PC: 63 [CC32: 4] CYM&CLAPS 2	PC: 64 [CC32: 4] V-VoxDrum	PC: 117 [CC32: 3] Oriental 3	PC: 32 [CC32: 4] MultiDrum	PC: 65 [CC32: 4] Or. R&B	PC: 66 [CC32: 4] Or. Techno	PC: 117 [CC32: 4] Oriental 4
(C7)	(96)	---	707 Claps	CajonHi	Mazhar Dom	808 Tom 2	Mazhar Dom	Mazhar Dom	Hand Clap 1
	97	---	---	CajonHiFlm	Mazhar Tak	808 Tom 2	Mazhar Tak	Mazhar Tak	---
	98	---	---	CajonLo	Mazhar Sak	808 Tom 2	Mazhar Sak	Mazhar Sak	---
	99	---	---	CajonLoFlm	Mazhar Brass	808 Tom 2	Mazhar Brass	Mazhar Brass	---
	100	---	---	FlmncoHClp1	Sagat Mid	808 Tom 2	Sagat Mid	Sagat Mid	---
	101	---	---	FlmncoHClp1	Sagat Hi	808cowbe	Sagat Hi	Sagat Hi	---
	102	---	---	BongoCowBell	Sagat Closed	808 Conga	Sagat Closed	Sagat Closed	---
	103	---	---	AfHey	Sagat Sak	808 Conga	Sagat Sak	Sagat Sak	---
	104	---	---	MamboCowBell	Dofs Tak	808 Conga	Dofs Tak	Dofs Tak	---
	105	---	---	MexFVox2	Dofs Dom	Synth Drum 2	Dofs Dom	Dofs Dom	---
	106	---	---	AfFoots	Dofs Sak	Synth Drum 2	Dofs Sak	Dofs Sak	---
	107	---	---	MexFVox1	Dofs Rim 1	Synth Drum 2	Dofs Rim 1	Dofs Rim 1	---
C8	108	---	---	MexMVox1	Dofs Rim 2	Synth Drum 2	Dofs Rim 2	Dofs Rim 2	---
	109	---	---	YodelFVox1	Dofs Dom st.	Synth Drum 2	Dofs Dom st.	Dofs Dom st.	---
	110	---	---	MexMVox2	TablaNurDom	Synth Drum 2	TablaNurDom	TablaNurDom	---
	111	---	---	YodelMVox1	Dofs Sak st.	R&B OHHsh	Dofs Sak st.	Dofs Sak st.	---
	112	---	---	MexMVox3	TablaNurRim	R&B OHH	TablaNurRim	TablaNurRim	---
	113	---	---	FlmncoFVox1	TablaNurTak	R&B CHH	TablaNurTak	TablaNurTak	---
	114	---	---	YodelFVox2	TablaNurSak	R&B OHH	TablaNurSak	TablaNurSak	---
	115	---	---	FlmncoFVox2	BassSlideFX	TR-909 CHH	BassSlideFX	BassSlideFX	---
	116	---	---	NewWhistle1	BassSlapFX	TR-909 OHH	BassSlapFX	BassSlapFX	---
	117	---	---	FlmncoFVox3	ZaghroutaSm2	909 Crash	ZaghroutaSm2	ZaghroutaSm2	---
	118	---	---	NewWhistle2	Zir 1	IPopKik36	Zir 1	Zir 1	---
	119	---	---	FlmncoMVox1	ZaghroutaEd2	IPopCStk37st	ZaghroutaEd2	ZaghroutaEd2	---
C9	120	---	---	FlmncoMVox2	NewHiBongo	IPopSn38st	NewHiBongo	NewHiBongo	---
	121	---	---	BrazilVox1	NewLoBongo	IPopSn40st	NewLoBongo	NewLoBongo	---
	122	---	---	FlmncoMVox3	NewCongaSlp	IPopHat1_42	NewCongaSlp	NewCongaSlp	---
	123	---	---	BrazilVox2	NewCongaOp	IPopHat2_44	NewCongaOp	NewCongaOp	---
	124	---	---	BrazilVox3	NewLoConga	IPopHat3_46	NewLoConga	NewLoConga	---
	125	---	---	AfAahhh	NewTmblHi	IPopTomL43	NewTmblHi	NewTmblHi	---
	126	---	---	p33137v	NewTmblLo	IPopTomM47	NewTmblLo	NewTmblLo	---
G9	127	---	---	p33168v	Hager 1	IPopTomH50	Hager 1	Hager 1	---

24. MFX types and parameters

Note: Most parameter names mentioned below cannot be displayed in full on the JM-5 and are therefore abbreviated.

1. Thru
The effects processor is bypassed.

2. Stereo EQ
This is a four-band stereo equalizer (low, mid x 2, high). Stereo signals (like certain piano sounds) are thus not combined to a mono signal before being processed.
- **EQ Low Frequency (200, 400Hz)—**Frequency of the low range you wish to boost or cut.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low range. Negative values reduce the level.
- **EQ High Frequency (2000, 4000, 8000Hz)—**Frequency of the high range you wish to boost or cut.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high range. Negative values reduce the level.
- **EQ Mid 1 Frequency (200~8000Hz)—**Frequency of the middle range 1 you wish to boost or cut. This is a parametric EQ band.
- **EQ Mid 1 Q (0.5, 1.0, 2.0, 4.0, 8.0)—**Width of the middle range 1. Set a higher value for "Q" to narrow the range to be boosted or cut.
- **EQ Mid 2 Gain (–15dB~0~15dB)—**Gain of middle range 1.
- **EQ Mid 2 Frequency (200~8000Hz)—**Frequency of the middle range 2 you wish to boost or cut. This is a parametric EQ band.
- **EQ Mid 2 Q (0.5, 1.0, 2.0, 4.0, 8.0)—**Width of the middle range 2. Set a higher value for "Q" to narrow the range to be boosted or cut.
- **EQ Mid 2 Gain (–15dB~0~15dB)—**Gain of the middle range 2.
- **Level (0~127)—**Output level. Use this parameter to compensate for exaggerated level differences resulting from the settings you made.

3. Overdrive
Creates a soft distortion similar to that produced by vacuum tube amplifiers.
- **Drive (0~127)—**Degree of distortion. Also changes the volume.
- **Panpot (L64~0~63R)—**Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **Amp Simulator Type—**Allows you to specify what kind of guitar amp will be simulated: *SMALL*: small amp, *BUILT-IN*: single-unit type amp, *2-STACK*: large double stack amp, *3-STACK*: large triple stack amp.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high range.
- **Level (0~127)—**Output level. Use this parameter to compensate for exaggerated level differences resulting from the settings you made.

4. Distortion
Produces a more intense distortion than the above. The parameters are the same as for "3. Overdrive".

5. Phaser
Adds phase-shifted copy to the original sound and modulates it.
- **Phaser Manual (100~8000Hz)—**Adjusts the basic frequency that is modulated by the effect.
- **Phaser Rate (0.05~10.0Hz)—**Frequency, i.e. modulation speed.
- **Phaser Depth (0~127)—**Modulation intensity.
- **Phaser Resonance (0~127)—**Amount of feedback. Higher values create a rather more "synthetic character".
- **Phaser Mix Level (0~127)—**Level of the phase-shifted sound with respect to the original signal.
- **Panpot (L64~0~63R)—**Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **Level (0~127)—**Output level. Use this parameter to compensate for exaggerated level differences resulting from the settings you made.

6. Spectrum
Spectrum is a type of filter that modifies the timbre by boosting or cutting the level at specific frequencies.
- **Spectrum 250Hz Gain (–15dB~0~15dB)**
- **Spectrum 500Hz Gain (–15dB~0~15dB)**
- **Spectrum 1000Hz Gain (–15dB~0~15dB)**
- **Spectrum 1250Hz Gain (–15dB~0~15dB)**
- **Spectrum 2000Hz Gain (–15dB~0~15dB)**
- **Spectrum 3150Hz Gain (–15dB~0~15dB)**
- **Spectrum 4000Hz Gain (–15dB~0~15dB)**
- **Spectrum 8000Hz Gain (–15dB~0~15dB)—**Gain of each frequency band.
- **Spectrum Band Width Q (0.5, 1.0, 2.0, 4.0, 8.0)—**Simultaneously adjusts the width of the adjusted ranges for all the frequency bands.
- **Panpot (L64~0~63R)—**Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **Level (0~127)—**Output level. Use this parameter to compensate for exaggerated level differences resulting from the settings you made.

7. Enhancer
This effect controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.
- **Enhancer Sens (0~127)—**Sensitivity of the enhancer.
- **Mix Level (0~127)—**Level of the overtones generated by the enhancer.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high range.
- **Level (0~127)—**Output level. Use this parameter to compensate for exaggerated level differences resulting from the settings you made.

8. Auto Wah
This effect controls a filter to create cyclic change in timbre (an automatic wah effect).
- **Auto Wah Filter Type (LPF, BPF)—**Type of filter. *LPF*: the wah effect is applied over a wide frequency range. *BPF*: the wah effect is applied over a narrow frequency range.
- **Auto Wah Rate (0.05~10.0Hz)—**Frequency, i.e. modulation speed.
- **Auto Wah Depth (0~127)—**Modulation intensity.
- **Auto Wah Sens (0~127)—**Adjusts the sensitivity with which the filter is controlled.
- **Auto Wah Manual (0~127)—**Adjusts the center frequency at which the effect is applied.
- **Auto Wah Peak (0~127)—**Adjusts the amount of the wah effect that will occur in the range of the center frequency. Set a higher value to narrow the range to be affected.
- **Level (0~127)—**Output level. Use this parameter to compensate for exaggerated level differences resulting from the settings you made.

9. Rotary

This effect simulates the sound of the rotary speakers often used with the electric organs. Since the movement of the high-range and low-range rotors can be set independently, the unique type of modulation characteristic of these speakers can be simulated quite closely. This effect is most suitable for electric organ sounds (of the [ORGAN] bank – the Harmonic Bar section has its own Rotary effect).

- **Tweeter Slow Rate (0.05~10.0Hz)**
- **Woofer Slow Rate (0.05~10.0Hz)—**Slow speed (SLOW) of the high- or low-frequency rotor.
- **Tweeter Fast Rate (0.05~10.0Hz)**
- **Woofer Fast Rate (0.05~10.0Hz)—**Fast speed (FAST) of the high- or low-frequency rotor.
- **Rotary Speed (Slow, Fast)—**Simultaneously switches the rotational speed of the low-frequency and high-frequency rotors. *SLOW*: Slows down the rotation to the "Slow Rate". *FAST*: Speeds up the rotation to the "Fast Rate".
- **Tweeter Acceleration (0~15)**
- **Woofer Acceleration (0~15)—**Adjusts the time it takes the rotor in question to reach the newly selected speed ("Fast" or "Slow"). Lower values correspond to slower transitions.
- **Tweeter Level (0~127)**
- **Woofer Level (0~127)—**Volume of the rotor in question.
- **Separation (0~127)—**Spatial dispersion of the sound.
- **Level (0~127)—**Output level.

10. Compressor

Reduces high levels (peaks) and boosts low levels, smoothing out fluctuations in volume.

- **Compressor Sustain (0~127)—**Allows you to specify how strongly incoming signals should be compressed, which results in a longer sustain.
- **Compressor Attack (0~127)—**Sets the speed at which compression starts.
- **Panpot (L64~0~63R)—**Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **Compressor Post Gain (0, +6, +12, +18dB)—**Adjusts the output gain. Use this parameter to make up for a significant volume loss due to extreme settings.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high range.
- **Level (0~127)—**Output level.

11. Limiter

Compresses signals that exceed the specified level, preventing distortion from occurring. Unlike a compressor, it does not boost the level of weaker signals.

- **Limiter Threshold (0~127)—**Adjusts the volume at which compression begins.
- **Limiter Release (0~127)—**Allows you to specify how long signal compression should remain in effect after the signal volume falls below the Threshold value.
- **Limiter Ratio (1.5:1, 2:1, 4:1, 100:1)—**Allows you to specify how strongly volume peaks should be compressed. Choose "100:1" if the Threshold level must never be exceeded (which is a true Limiter function).
- **Panpot (L64~0~63R)—**Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **Limiter Post Gain (0, +6, +12, +18dB)—**Adjusts the output gain. Use this parameter to make up for a significant volume loss due to extreme settings.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high range.
- **Level (0~127)—**Output level.

12. Hexa-Chorus

Uses a six-phase chorus (six layers of chorused sound) to create a dense and spatial effect.

- **Chorus Pre Delay (0.0~100.0ms)—**Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Chorus Rate (0.05~10.0Hz)—**Frequency, i.e. modulation speed.
- **Chorus Depth (0~127)—**Modulation intensity.
- **Chorus Pre Delay Deviation (0~20)—**Adjusts the differences in Pre Delay between each chorus line (there are six of them).
- **Chorus Depth Deviation (-20~0~20)—**Adjusts the difference in modulation depth between each chorus sound.
- **Chorus Pan Deviation (0~20)—**Adjusts the distribution of the various chorus lines in the stereo image.
  0: All chorus sounds are in the center.
  20: Each chorus sound will be spaced at 60 degree intervals relative to the center.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

13. Trem Chorus

This is a chorus effect with added Tremolo (cyclic modulation of volume).

- **Chorus Pre Delay (0.0~100.0ms)—**Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Chorus Rate (0.05~10.0Hz)—**Frequency, i.e. modulation speed.
- **Chorus Depth (0~127)—**Modulation intensity.
- **Tremolo Rate (0.05~10.0Hz)—**Modulation frequency of the tremolo effect.
- **Tremolo Separation (0~127)—**Allows you to set the level of the tremolo effect with respect to the chorus modulation.
- **Tremolo Phase (0~180 deg)—**Spread of the tremolo effect.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

14. Space-D

This is a multiple chorus that applies two-phase modulation in stereo. It gives no impression of modulation, but produces a transparent chorus effect.

- **Chorus Pre Delay (0.0~100.0ms)—**Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Chorus Rate (0.05~10.0Hz)—**Frequency, i.e. modulation speed.
- **Chorus Depth (0~127)—**Modulation intensity.
- **Chorus Phase (0~180deg)—**Spatial spread of the sound.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high range.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

15. St. Chorus

This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.

- **Filter Type (OFF, LPF, HPF)—**Type of filter. *OFF*: no filter is used. *LPF*: cuts the frequency range above the Cutoff value. *HPF*: cuts the frequency range below the Cutoff value.
- **Cutoff Frequency (200~8000Hz)—**Basic frequency of the filter.
- **Chorus Pre Delay (0.0~100.0ms)—**Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Chorus Rate (0.05~10.0Hz)—**Frequency, i.e. modulation speed.
- **Chorus Depth (0~127)—**Modulation intensity.
- **Chorus Phase (0~180 deg)—**Spatial spread of the sound.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high range.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

16. St. Flanger

This is a stereo flanger. It produces a metallic resonance that rises and falls like a jet airplane taking off or landing.

- **Filter Type (OFF, LPF, HPF)**—Type of filter. OFF: no filter is used. LPF: cuts the frequency range above the Cutoff value. HPF: cuts the frequency range below the Cutoff value.
- **Cutoff Frequency (200~8000Hz)**—Basic frequency of the filter.
- **Flanger Pre Delay (0.0~100.0ms)**—Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
- **Flanger Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Flanger Depth (0~127)**—Modulation intensity.
- **Flanger Phase (0~180 deg)**—Spatial spread of the sound.
- **Flanger Feedback (–98%~0~98%)**—Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

17. Step Flanger

A Step Flanger is a flanger effect with clearly noticeable steps rather than continuous pitch changes.

- **Flanger Pre Delay (0.0~100.0ms)**—Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
- **Flanger Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Flanger Depth (0~127)**—Modulation intensity.
- **Flanger Feedback (–98%~0~98%)**—Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Step Rate (0.10~20.0Hz, note)**—Rate (period) of pitch change
- **Flanger Phase (0~180deg)**—Spatial spread of the sound.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

18. St. Delay

Delay is an effect that allows you repeat the input signal, thus creating echoes (repetition).

- **Delay FBK Mode (Normal, Cross)**—Select the way in which delay sound is fed back into the effect. *NORMAL*: The left delay sound will be fed back into the left delay and the right delay sound into the right delay. *CROSS*: The left delay sound will be fed back into the right delay and the right delay sound into the left delay.
- **Delay Left (0.0~500.0ms)**—Adjust the time from the direct sound until when the left delay sound is heard.
- **Delay Right (0.0~500.0ms)**—Adjust the time from the direct sound until when the right delay sound is heard.
- **FBK Phase Left (Normal, Invert)**—Select the phase of the left delay sound. *NORMAL*: Phase is not changed. *INVERT*: Phase is inverted.
- **FBK Phase Right (Normal, Invert)**—Select the phase of the right delay sound. *NORMAL*: Phase is not changed. *INVERT*: Phase is inverted.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to *BYPASS*.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

19. Mod. Delay

This effect adds modulation to the delayed sound, producing an effect similar to a Flanger.

- **Delay FBK Mode (Normal, Cross)**—Select the way in which delay sound is fed back into the effect. NORMAL: The left delay sound will be fed back into the left delay and the right delay sound into the right delay. CROSS: The left delay sound will be fed back into the right delay and the right delay sound into the left delay.
- **Delay Left (0.0~500.0ms)**—Adjust the time from the direct sound until when the left delay sound is heard.
- **Delay Right (0.0~500.0ms)**—Adjusts the time until the delay sound is heard.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Modulation Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Modulation Depth (0~127)**—Adjust the depth of the modulation.
- **Modulation Phase (0~180 deg)**—Adjust the spatial spread of the sound
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

20. 3 Tap Delay

The Triple Tap Delay produces three delay sounds: center, left and right.

- **Delay Left (200~1000ms, note)**—Adjust the time from the direct sound until when the left delay sound is heard.
- **Delay Right (200~1000ms, note)**—Adjust the time from the direct sound until when the right delay sound is heard.
- **Delay Center (200~1000ms, note)**—Adjust the time delay from the direct sound until when the center delay sound is heard.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Delay Level Left (0~127)**—Adjust the volume of the left delay sound.
- **Delay Level Right (0~127)**—Adjust the volume of the right delay sound.
- **Delay Level Center (0~127)**—Adjust the volume of the center delay sound.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

21. 4 Tap Delay

Delay with four repetition lines.

- **Delay 1~4 (200~1000ms, note)**—Adjusts the time until the delay is heard.
- **Delay Level 1~4 (0~127)**—Output level of the delay sound.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).

- **Level (0~127)**—Output level.

22. Time Delay

This effect controls the delay time and pitch in realtime. Lengthening the delay time will lower the pitch and shortening it will raise the pitch.

- **Delay Time (200~1000ms, note)**—Adjusts the time until the delay is heard.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay Acceleration (0~15)**—Adjusts the time over which the Delay Time changes from the current setting to a specified new setting. The rate of change for the Delay Time directly affects the rate of pitch change.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Panpot (L64~0~63R)**—Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

23. 2 Pitch Shifter

A Pitch Shifter changes the pitch of the original sound. This 2-voice effect contains two pitch shifters and adds two transposed copies to the original sound.

- **Pitch Shift Mode (1~5)**—Higher settings of this parameter will result in slower response, but steadier pitch.
- **Pitch A Coarse (–24~0~+12 semitone)**—Adjusts the pitch of Pitch Shift A in semitone steps (–2~+1 octaves).
- **Pitch B Coarse (–24~0~+12 semitone)**—Adjusts the pitch of Pitch Shift B in semitone steps (–2~+1 octaves).
- **Pitch A Fine (–100~0~+100 cent)**—Makes fine adjustments to the pitch of Pitch Shift A in 2-cent steps (–100~+100 cents). One cent is 1/100th of a semitone.
- **Pitch B Fine (–100~0~+100 cent)**—Makes fine adjustments to the pitch of Pitch Shift B in 2-cent steps (–100~+100 cents). One cent is 1/100th of a semitone.
- **Pitch A Pre Delay (0.0~500.0ms)**—Adjust the time delay from when the direct sound begins until the Pitch Shift A sound is heard.
- **Pitch B Pre Delay (0.0~500.0ms)**—Adjusts the time delay from when the direct sound begins until the Pitch Shift B sound is heard.
- **Pitch A Panpot (L64~0~63R)**—Adjusts the stereo location of the Pitch Shift A sound. L64 is far left, 0 is center and 63R is far right.
- **Pitch B Panpot (L64~0~63R)**—Adjusts the stereo location of the Pitch Shift B sound. L64 is far left, 0 is center and 63R is far right.
- **Level Balance (A100:0B, A50:50B, A0:100B)**—Adjusts the volume balance between the Pitch Shift A and Pitch Shift B sounds. When set to A100:0B, only the sound of Pitch Shift A is output; when set to A0:100B, only the sound of Pitch Shift B is output.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

24. FBK Pitch

Pitch Shifter with several echoes.

- **Pitch Shift Mode (1~5)**—Higher settings of this parameter will result in slower response, but steadier pitch.
- **Pitch Coarse (–24~0~+12 semitones)**—Adjust the pitch of the pitch shifted sound in semitone steps (–2~+1 octaves).
- **Pitch Fine (–100~0~+100 cent)**—Make fine adjustments to the pitch of the pitch shifted sound in 2-cent steps (one cent is 1/100th of a semi tone).
- **Pitch Pre Delay (0.0~500.0ms)**—Adjust the time delay from when the direct sound begins until the pitch shifted sound is heard.
- **Pitch Feedback (–98%~0~98%)**—Adjust the proportion (%) of the processed sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Panpot (L64~0~63R)**—Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

25. Reverb

A nice Reverb effect.

- **Reverb Type (Room 1, Room 2, Stage 1, Stage 2, Hall 1, Hall 2)**—Type of reverb.
  Room1: Dense reverb with short decay.
  Room2: Sparse reverb with short decay.
  Stage1: Reverb with greater late reverberation.
  Stage2: Reverb with strong early reflections.
  Hall1: Reverb with clear reverberance.
  Hall2: Reverb with rich reverberance.
- **Reverb Pre Delay (0.0~100.0ms)**—Adjusts the delay time from the direct sound until the reverb sound is heard.
- **Reverb Time (0~127)**—Time length of reverberation.
- **Reverb HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

26. Gate Reverb

This is a special type of reverb in which the reverberant sound is cut off before its natural length.

- **Reverb Type (Normal, Reverse, Sweep 1, Sweep 2)**—Type of reverb.
  NORMAL: Conventional gated reverb.
  REVERSE: Backwards reverb.
  SWEEP1: The reverberant sound moves from right to left.
  SWEEP2: The reverberant sound moves from left to right.
- **Reverb Pre Delay (0.0~100.0ms)**—Adjusts the delay time from the direct sound until the reverb sound is heard.
- **Reverb Gate Time (5~500ms)**—Adjusts the time from when the reverb is heard until it disappears.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

27. OD→ Chorus

This effect connects an Overdrive and a Chorus in series. ("Series" means that the output signal of the first effect is also processed by the second.)

- **Overdrive Drive (0~127)**—Degree of distortion. Also changes the volume.
- **Overdrive Panpot (L64~0~63R)**—Stereo location of the overdrive sound.
- **Chorus Pre Delay (0.0~100.0ms)**—Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Chorus Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Chorus Depth (0~127)**—Modulation intensity.
- **Chorus Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the chorus sound (W).
- **Level (0~127)**—Output level.

28. OD→ Flanger

This effect connects an Overdrive and a Flanger in series.

- **Overdrive Drive (0~127)**—Degree of distortion. Also changes the volume.
- **Overdrive Panpot (L64~0~63R)**—Stereo location of the overdrive sound.
- **Flanger Pre Delay (0.0~100.0ms)**—Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
- **Flanger Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Flanger Depth (0~127)**—Modulation intensity.
- **Flanger Feedback (–98%~0~98%)**—Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Flanger Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the flanger sound (W).
- **Level (0~127)**—Output level.

29. OD→ Delay

This effect connects an overdrive and a delay in series.

- **Overdrive Drive (0~127)**—Degree of distortion. Also changes the volume.
- **Overdrive Panpot (L64~0~63R)**—Stereo location of the overdrive sound.
- **Delay Time (0.0~500.0ms)**—Adjusts the time until the delay is heard.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Delay Balance (D100:0W, D50:50W, D0:100W)**—Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
- **Level (0~127)**—Output level.

30. DST→ Chorus

This effect connects distortion and a chorus in series.

- **Distortion Drive (0~127)**—Degree of distortion. Also changes the volume.
- **Distortion Panpot (L64~0~63R)**—Stereo location of the distortion sound.
- **Chorus Pre Delay (0.0~100.0ms)**—Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Chorus Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Chorus Depth (0~127)**—Modulation intensity.
- **Chorus Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the chorus sound (W).
- **Level (0~127)**—Output level.

31. DST→ Flanger

This effect connects distortion and a flanger effect in series.

- **Distortion Drive (0~127)**—Degree of distortion. Also changes the volume.
- **Distortion Panpot (L64~0~63R)**—Stereo location of the distortion sound.
- **Flanger Pre Delay (0.0~100.0ms)**—Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
- **Flanger Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Flanger Depth (0~127)**—Modulation intensity.
- **Flanger Feedback (–98%~0~98%)**—Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Flanger Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the flanger sound (W).
- **Level (0~127)**—Output level.

32. DST→ Delay

This effect connects distortion and a delay effect in series.

- **Distortion Drive (0~127)**—Degree of distortion. Also changes the volume.
- **Distortion Panpot (L64~0~63R)**—Stereo location of the distortion sound.
- **Delay Time (0.0~500.0ms)**—Adjusts the time until the delay is heard.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Delay Balance (D100:0W, D50:50W, D0:100W)**—Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
- **Level (0~127)**—Output level.

33. EH→ Chorus

This effect connects an enhancer and a chorus in series.

- **Enhancer Sens (0~127)**—Sensitivity of the enhancer.
- **Enhancer Mix Level (0~127)**—Level of the overtones generated by the enhancer.
- **Chorus Pre Delay (0.0~100.0ms)**—Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Chorus Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Chorus Depth (0~127)**—Modulation intensity.
- **Chorus Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the chorus sound (W).
- **Level (0~127)**—Output level.

34. EH→ Flanger

This effect connects an enhancer and a flanger in series.

- **Enhancer Sens (0~127)**—Sensitivity of the enhancer.
- **Enhancer Mix Level (0~127)**—Level of the overtones generated by the enhancer.
- **Flanger Pre Delay (0.0~100.0ms)**—Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
- **Flanger Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Flanger Depth (0~127)**—Modulation intensity.
- **Flanger Feedback (–98%~0~98%)**—Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Flanger Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the flanger sound (W).
- **Level (0~127)**—Output level.

35. EH→ Delay

This effect connects an enhancer and a delay in series.

- **Enhancer Sens (0~127)**—Sensitivity of the enhancer.
- **Enhancer Mix Level (0~127)**—Level of the overtones generated by the enhancer.
- **Delay Time (0.0~500.0ms)**—Adjusts the time until the delay is heard.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Delay Balance (D100:0W, D50:50W, D0:100W)**—Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
- **Level (0~127)**—Output level.

36. Chorus→ DLY

This effect connects a chorus and a delay in series.

- **Chorus Pre Delay (0.0~100.0ms)**—Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Chorus Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Chorus Depth (0~127)**—Modulation intensity.
- **Chorus Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the chorus sound (W).
- **Delay Time (0.0~500.0ms)**—Adjusts the time until the delay is heard.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Delay Balance (D100:0W, D50:50W, D0:100W)**—Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
- **Level (0~127)**—Output level.

37. Flanger→ DLY

This effect connects a flanger and a delay in series.

- **Flanger Pre Delay (0.0~100.0ms)**—Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
- **Flanger Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Flanger Depth (0~127)**—Modulation intensity.
- **Flanger Feedback (–98%~0~98%)**—Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Flanger Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the flanger sound (W).
- **Delay Time (0.0~500.0ms)**—Adjusts the time until the delay is heard.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Delay Balance (D100:0W, D50:50W, D0:100W)**—Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
- **Level (0~127)**—Output level.

38. CHO→ Flanger

This effect connects a chorus and a flanger in series.

- **Chorus Pre Delay (0.0~100.0ms)**—Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Chorus Rate (0.05~10.0Hz)**—Modulation frequency of the chorus effect.
- **Chorus Depth (0~127)**—Modulation intensity of the chorus effect.
- **Chorus Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the chorus sound (W).
- **Flanger Pre Delay (0.0~100.0ms)**—Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
- **Flanger Rate (0.05~10.0Hz)**—Modulation frequency of the flanger effect.
- **Flanger Depth (0~127)**—Modulation intensity of the flanger effect.
- **Flanger Feedback (–98%~0~98%)**—Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Flanger Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the flanger sound (W).
- **Level (0~127)**—Output level.

39. CHO/DLY

This effect connects a chorus and a delay in parallel. ("Parallel" means that the input signal is processed by two effects that do not interact.)

- **Chorus Pre Delay (0.0~100.0ms)**—Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Chorus Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Chorus Depth (0~127)**—Modulation intensity.
- **Chorus Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the chorus sound (W).
- **Delay Time (0.0~500.0ms)**—Adjusts the time until the delay is heard.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Delay Balance (D100:0W, D50:50W, D0:100W)**—Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
- **Level (0~127)**—Output level.

40. Flanger/DLY

This effect connects a flanger and a delay in parallel.

- **Flanger Pre Delay (0.0~100.0ms)**—Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
- **Flanger Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Flanger Depth (0~127)**—Modulation intensity.
- **Flanger Feedback (–98%~0~98%)**—Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Flanger Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the flanger sound (W).
- **Delay Time (0.0~500.0ms)**—Adjusts the time until the delay is heard.
- **Delay Feedback (–98%~0~98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Delay Balance (D100:0W, D50:50W, D0:100W)**—Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
- **Level (0~127)**—Output level.

41. CHO/Flanger

This effect connects a chorus and a flanger in parallel.

- **Chorus Pre Delay (0.0~100.0ms)**—Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Chorus Rate (0.05~10.0Hz)**—Modulation frequency of the chorus effect.
- **Chorus Depth (0~127)**—Modulation intensity of the chorus effect.
- **Chorus Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the chorus sound (W).
- **Flanger Pre Delay (0.0~100.0ms)**—Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
- **Flanger Rate (0.05~10.0Hz)**—Modulation frequency of the flanger effect.
- **Flanger Depth (0~127)**—Modulation intensity of the flanger effect.
- **Flanger Feedback (–98%~0~98%)**—Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Flanger Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct sound (D) and the flanger sound (W).
- **Level (0~127)**—Output level.

42. Isolator

This is an equalizer which cuts the volume greatly, allowing you to add a special effect to the sound by cutting the volume in varying ranges.

- **Boost/Cut Low/Mid/High Level (–60~0~4 [dB])—**These boost and cut each of the High, Middle and Low frequency ranges. At –60dB, the sound becomes inaudible. 0dB is equivalent to the input level of the sound.
- **Anti Phase Low Sw (Off, On)—**Turns the Anti-Phase function on and off for the Low frequency ranges. When turned on, the counter-channel of stereo sound is inverted and added to the signal.
- **Anti Phase Low Level (0~127)—**Adjusts the level settings for the Low frequency ranges. Adjusting this level for certain frequencies allows you to lend emphasis to specific parts. (This is effective only for stereo source.)
- **Anti Phase Mid Sw (Off, On)—**Turns the Anti-Phase function on and off for the Middle frequency ranges. When turned on, the counter-channel of stereo sound is inverted and added to the signal.
- **Anti Phase Mid Level (0~127)—**Adjusts the level settings for the Middle frequency ranges. Adjusting this level for certain frequencies allows you to lend emphasis to specific parts. (This is effective only for stereo source.)
- **Low Boost Sw (Off, On)—**Turns Low Booster on/off. This emphasizes the bottom to create a heavy bass sound.
- **Low Boost Level (0~127)—**Increasing this value gives you a heavier low end. Depending on the Isolator and filter settings this effect may be hard to distinguish.
- **Level (0~127)—**Output level.

43. Low Boost

Boosts the volume of the lower range, creating powerful lows.

- **Boost Frequency (50~125 [Hz])—**Center frequency at which the lower range will be boosted.
- **Boost Gain (0~12 [dB])—**Amount by which the lower range will be boosted.
- **Boost Width (Wide, Mid, Narrow)—**Width of the lower range that will be boosted.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Level (0~127)—**Output level.

44. Super Filter

This is a filter with an extremely sharp slope. The cutoff frequency can be varied cyclically.

- **Filter Type (LPF, BPF, HPF, NOTCH)—**Filter type. Frequency range that will pass through each filter. *LPF*: frequencies below the cutoff. *BPF*: frequencies in the region of the cutoff. *HPF*: frequencies above the cutoff. *NOTCH*: frequencies other than the region of the cutoff.
- **Filter Slope (–12, –24, –36 [dB])—**Amount of attenuation per octave: *–36dB*: extremely steep, *–24dB*: steep, *–12dB*: gentle.
- **Filter Cutoff (0~127)—**Cutoff frequency of the filter. Increasing this value will raise the cutoff frequency.
- **Filter Resonance (0~127)—**Filter resonance level. Increasing this value will emphasize the region near the cutoff frequency.
- **Filter Gain (0~12 [dB])—**Amount of boost for the filter output.
- **Modulation Sw (Off, On)—**On/off switch for cyclic change.
- **Modulation Wave (TRI, SQR, SIN, SAW1, SAW2)—**How the cutoff frequency will be modulated: *TRI*: triangle wave, *SQR*: square wave, *SIN*: sine wave, *SAW1*: sawtooth wave (upward), *SWA2*: sawtooth wave (downward)
- **Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)—**Rate of modulation.
- **Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Depth (0~127)—**Depth of modulation.
- **Attack (0~127)—**Speed at which the cutoff frequency will change. This is effective if Modulation Wave is *SQR*, *SAW1* or *SAW2*.
- **Level (0~127)—**Output level.

45. Step Filter

This is a filter whose cutoff frequency can be modulated in steps. You can specify the pattern by which the cutoff frequency will change.

- **Step 1~16 (0~127)—**Cutoff frequency at each step
- **Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)—**Rate of modulation.
- **Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Attack (0~127)—**Speed at which the cutoff frequency changes between steps.
- **Filter Type (LPF, BPF, HPF, NOTCH)—**Filter type. Frequency range that will pass through each filter. LPF: frequencies below the cutoff. BPF: frequencies in the region of the cutoff. HPF: frequencies above the cutoff. NOTCH: frequencies other than the region of the cutoff.
- **Filter Slope (–12, –24, –36 [dB])—**Amount of attenuation per octave: –36dB: extremely steep, –24dB: steep, –12dB: gentle.
- **Filter Resonance (0~127)—**Filter resonance level. Increasing this value will emphasize the region near the cutoff frequency.
- **Filter Gain (0~12 [dB])—**Amount of boost for the filter output.
- **Level (0~127)—**Output level.

46. Humanizer

Adds a vowel character to the sound, making it similar to a human voice.

- **Drive Sw (OFF,ON)—**Turns Drive on/off.
- **Drive (0~127)—**Degree of distortion. Also changes the volume.
- **Vowel 1 (a, e, i, o, u)**
- **Vowel 2 (a, e, i, o, u)—**Selects the vowel.
- **Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)—**Frequency at which the two vowels switch.
- **Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Depth (0~127)—**Effect depth.
- **Input Sync Sw (Off, On)—**Determines whether the LFO for switching the vowels is reset by the input signal (ON) or not (OFF).
- **Input Sync Threshold (0~127)—**Volume level at which reset is applied.
- **Manual (0~100)—**Point at which Vowel 1/2 switch. *49* or less: Vowel 1 will have a longer duration. *50*: Vowel 1 and 2 will be of equal duration. *50* or more: Vowel 2 will have a longer duration.
- **EQ EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Panpot (L64~0~63R)—**Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **Level (0~127)—**Output level.

47. Speaker Sim

Simulates the speaker type and mic settings used to record the speaker sound.

- **Speaker Type—**Select the type of speaker. The specifications of each type are as follows. The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
Small 1	small open-back enclosure	10	dynamic mic
Small 2	small open-back enclosure	10	dynamic mic
Middle	open back enclosure	12 x 1	dynamic mic
JC-120	open back enclosure	12 x 2	dynamic mic
Built In 1	open back enclosure	12 x 2	dynamic mic
Built In 2	open back enclosure	12 x 2	condenser mic
Built In 3	open back enclosure	12 x 2	condenser mic
Built In 4	open back enclosure	12 x 2	condenser mic
Built In 5	open back enclosure	12 x 2	condenser mic
BG Stack 1	sealed enclosure	12 x 4	condenser mic
BG Stack 2	large sealed enclosure	12 x 4	condenser mic
MS Stack 1	large sealed enclosure	12 x 4	condenser mic
MS Stack 2	large sealed enclosure	12 x 4	condenser mic
Metal Stk	large double stack	12 x 4	condenser mic
2-STACK	large sealed enclosure	12 x 4	condenser mic
3-STACK	large sealed enclosure	12 x 4	condenser mic

- **Mic Setting (1, 2, 3)—**Adjusts the location of the mic that is recording the sound of the speaker. This can be adjusted in three steps, with the mic becoming more distant in the order of 1, 2 and 3.
- **Mic Level (0~127)—**Volume of the microphone.
- **Direct Level (0~127)—**Volume of the direct sound.
- **Level (0~127)—**Output level.

48. Step Phaser

The phaser effect will be varied gradually.

- **Phaser Mode (4-Stage, 8-Stage, 12-Stage)—**Number of stages in the phaser.
- **Phaser Manual (0~127)—**Adjusts the basic frequency from which the sound will be modulated.
- **Step Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Step Rate [Hz] (0.05~10.00Hz)—**Frequency, i.e. modulation speed.
- **Step Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Depth (0~127)—**Depth of modulation.
- **Polarity (Inverse, Synchro)—**Selects whether the left and right phase of the modulation will be the same or the opposite. *INVERSE*: The left and right phase will be opposite. When using a mono source, this spreads the sound. *SYNCHRO*: The left and right phase will be the same. Select this when inputting a stereo source
- **Resonance (0~127)—**Amount of feedback.
- **Cross Feedback (–98%~0~+98%)—**Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Step Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the step rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Step Rate [Hz] (0.10~20.00Hz)—**Rate of the step-wise change in the phaser effect.
- **Step Rate [note] (Musical Notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Mix Level (0~127)—**Level of the phase-shifted sound.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Level (0~127)—**Output level.

49. MLT Phaser

Extremely high settings of the phase difference produce a deep phaser effect.

- **Phaser Mode (4-stage, 8-stage, 12-stage, 16-stage, 20-stage, 24-stage)—**Number of stages in the phaser.
- **Phaser Manual (0~127)—**Adjusts the basic frequency from which the sound will be modulated.
- **Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)—**Frequency, i.e. modulation speed.
- **Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Depth (0~127)—**Depth of modulation.
- **Resonance (0~127)—**Amount of feedback.
- **Mix Level (0~127)—**Level of the phase-shifted sound.
- **Panpot (L64~0~63R)—**Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Level (0~127)—**Output level.

50. INF Phaser

A phaser that continues raising/lowering the frequency at which the sound is modulated.

- **Mode (1, 2, 3, 4)—**Higher values will produce a deeper phaser effect.
- **Speed (–100~100)—**Speed at which to raise or lower the frequency at which the sound is modulated (+: upward/–: downward).
- **Resonance (0~127)—**Amount of feedback.
- **Mix Level (0~127)—**Level of the phase-shifted sound.
- **Panpot (L64~0~63R)—**Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Level (0~127)—**Output level.

51. Ring Modul

Ring Modulator is an effect which applies amplitude modulation (AM) to the input signal, producing bell-like sounds. You can also change the modulation frequency according to the volume of the sound input to the effects device.

- **Frequency (0~127)—**Sets the frequency at which modulation will be applied.
- **Sens (0~127)—**Sets the amount of frequency modulation applied.
- **Polarity (Up, Down)—**Determines whether the frequency modulation moves towards higher frequencies (UP) or lower frequencies (DOWN).
- **EQ Low Gain—**Adjust the low frequency gain (amount of boost or cut). Positive (+) settings will emphasize (boost) the low frequency range.
- **EQ High Gain—**Adjust the high frequency gain (amount of boost or cut). Positive (+) settings emphasize (boost) the high frequency range.

- **Balance—**Sets the volume balance between the direct and the effect sound. With a setting of D100:0W only the direct sound will be output and with a setting of D0:100W the effect sound will be output.
- **Level (0~127)—**Output level.

52. Step Ring

This is a ring modulator that uses a 16-step sequence to vary the frequency at which modulation is applied.

- **Step 1~16 (0~127)—**Frequency of ring modulation at each step.
- **Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)—**Rate at which the 16-step sequence will cycle.
- **Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Attack (0~127)—**Speed at which the modulation frequency changes between steps.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

53. Tremolo

Cyclically modulates the volume to add tremolo effect to the sound.

- **Modulation Wave (TRI, SQR, SIN, SAW1, SAW2)—**Modulation Wave. *TRI*: triangle wave, *SQR*: square wave, *SIN*: sine wave, *SAW1/2*: sawtooth wave.
- **Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)—**Frequency, i.e. modulation speed.
- **Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Depth (0~127)—**Depth to which the effect is applied.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Level (0~127)—**Output level.

54. Auto Pan

Cyclically modulates the stereo location of the sound.

- **Modulation Wave (TRI, SQR, SIN, SAW1, SAW2)—**Modulation Wave. TRI: triangle wave, SQR: square wave, SIN: sine wave, SAW1/2: sawtooth wave.
- **Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)—**Frequency, i.e. modulation speed.
- **Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Depth (0~127)—**Depth to which the effect is applied.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Level (0~127)—**Output level.

55. Step Pan

This uses a 16-step sequence to vary the panning of the sound.

- **Step 1~16 (L64~0~63R)—**Pan at each step.
- **Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)—**Rate at which the 16-step sequence will cycle.
- **Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Attack (0~127)—**Speed at which the pan changes between steps.
- **Input Sync Sw (Off, On)—**Specifies whether an input note will cause the sequence to resume from the first step of the sequence (ON) or not (OFF).
- **Input Sync Threshold (0~127)—**Volume at which an input note will be detected.
- **Level (0~127)—**Output level.

56. Slicer

By applying successive cuts to the sound, this effect turns a conventional sound into a sound that appears to be played as a backing phrase. This is especially effective when applied to sustain-type sounds.

- **Step 1~16 (0~127)—**Level at each step.
- **Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)—**Rate at which the 16-step sequence will cycle.
- **Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Attack (0~127)—**Speed at which the level changes between steps.
- **Input Sync Sw (Off, On)—**Specifies whether an input note will cause the sequence to resume from the first step of the sequence (ON) or not (OFF).
- **Input Sync Threshold (0~127)—**Volume at which an input note will be detected.
- **Mode (Legato, Slash)—**Sets the manner in which the volume changes as one step progresses to the next.
  LEGATO: The change in volume from one step's level to the next remains unaltered. If the level of a following step is the same as the one preceding it, there is no change in volume.
  SLASH: The level is momentarily set to 0 before progressing to the level of the next step. This change in volume occurs even if the level of the following step is the same as the preceding step.
- **Shuffle (0~127)—**Timing of volume changes in levels for even-numbered steps (step 2, step 4, step 6…). The higher the value, the later the beat progresses.
- **Level (0~127)—**Output level.

57. VK Rotary

This type provides modified response for the rotary speaker, with the low end boosted further.

This effect features the same specifications as the VK-7's built-in rotary speaker.

- **Speed (Slow, Fast)—**Rotational speed of the rotating speaker.
- **Brake (Off, On)—**Switches the rotation of the rotary speaker. When this is turned on, the rotation will gradually stop. When it is turned off, the rotation will gradually resume.
- **Woofer Slow Speed (0.05~10.0Hz)—**Low-speed rotation speed of the woofer.
- **Woofer Fast Speed (0.05~10.0Hz)—**High-speed rotation speed of the woofer.
- **Woofer Trans Up (0~127)—**Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast.

- **Woofer Trans Down (0~127)**—Adjusts the rate at which the woofer rotation slows down when the rotation is switched from Fast to Slow.
- **Woofer Level (0~127)**—Volume of the woofer.
- **Tweeter Slow Speed (0.05~10.0Hz)**—Low-speed rotation speed of the tweeter.
- **Tweeter Fast Speed (0.05~10.0Hz)**—High-speed rotation speed of the tweeter.
- **Tweeter Trans Up (0~127)**—Adjusts the rate at which the tweeter rotation speeds up when the rotation is switched from Slow to Fast.
- **Tweeter Trans Down (0~127)**—Adjusts the rate at which the tweeter rotation slows down when the rotation is switched from Fast to Slow.
- **Tweeter Level (0~127)**—Volume of the tweeter.
- **Spread (0~10)**—Sets the rotary speaker stereo image. The higher the value set, the wider the sound is spread out.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high frequency range.
- **Level (0~127)**—Output level.

58. 3D Chorus

This applies a 3D effect to the chorus sound. The chorus sound will be positioned 90 degrees left and 90 degrees right.

- **Filter Type (OFF, LPF, HPF)**—Type of filter. OFF: no filter is used. LPF: cuts the frequency range above the Cutoff value. HPF: cuts the frequency range below the Cutoff value.
- **Cutoff Frequency (200~8000Hz)**—Basic frequency of the filter.
- **Chorus Pre Delay (0.0~100.0ms)**—Adjusts the delay between the incoming direct signal and the moment when the chorus starts working.
- **Rate [sync] (Hz, Note)**—Use this parameter to specify whether ("Note") or not ("Hz") the modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Chorus Rate (0.05~10.0Hz)**—Frequency, i.e. modulation speed.
- **Rate [note] (musical notes)**—Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Chorus Depth (0~127)**—Modulation intensity.
- **Phase (0~180 deg)**—Spatial spread of the sound.
- **Output Mode (Speaker, Phones)**—Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select *SPEAKER* when using speakers or *PHONES* when using headphones.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

59. 3D Flanger

This applies a 3D effect to the flanger sound. The flanger sound will be positioned 90 degrees left and 90 degrees right.

- **Filter Type (OFF, LPF, HPF)**—Type of filter. OFF: no filter is used. LPF: cuts the frequency range above the Cutoff value. HPF: cuts the frequency range below the Cutoff value.
- **Cutoff Frequency (200~8000Hz)**—Basic frequency of the filter.
- **Pre Delay (0.0~100.0ms)**—Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
- **Rate [sync] (Hz, Note)**—Use this parameter to specify whether ("Note") or not ("Hz") the modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)**—Frequency, i.e. modulation speed.
- **Rate [note] (musical notes)**—Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Depth (0~127)**—Depth of modulation.
- **Phase (0~180 deg)**—Spatial spread of the sound.
- **Feedback (–98%~0~+98%)**—Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Output Mode (Speaker, Phones)**—Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers or PHONES when using headphones.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

60. 3D Step Flgr

This applies a 3D effect to the step flanger sound. The flanger sound will be positioned 90 degrees left and 90 degrees right.

- **Filter Type (OFF, LPF, HPF)**—Type of filter. OFF: no filter is used. LPF: cuts the frequency range above the Cutoff value. HPF: cuts the frequency range below the Cutoff value.
- **Cutoff Frequency (200~8000Hz)**—Basic frequency of the filter.
- **Pre Delay (0.0~100.0ms)**—Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
- **Rate [sync] (Hz, Note)**—Use this parameter to specify whether ("Note") or not ("Hz") the modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)**—Frequency, i.e. modulation speed.
- **Rate [note] (musical notes)**—Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Depth (0~127)**—Depth of modulation.
- **Phase (0~180 deg)**—Spatial spread of the sound.
- **Feedback (–98%~0~+98%)**—Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.
- **Step Rate [sync] (Hz, Note)**—Use this parameter to specify whether ("Note") or not ("Hz") the step rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Step Rate [Hz] (0.10~20.00Hz)**—Rate (period) of pitch change.
- **Step Rate [note] (musical notes)**—Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Output Mode (Speaker, Phones)**—Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers or PHONES when using headphones.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

61. Band Chorus

A chorus effect that lets you apply an effect independently to the low-frequency and high-frequency ranges.

- **Split Frequency (200~8000Hz)**—Frequency at which the low and high ranges will be divided.
- **Low Pre Delay (0.0~100.0ms)**—Delay time from when the original sound is heard to when the low-range chorus sound is heard.
- **Low Rate [sync] (Hz, Note)**—Use this parameter to specify whether ("Note") or not ("Hz") the low modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Low Rate [Hz] (0.05~10.00Hz)**—Rate at which the low-range chorus sound is modulated.

- **Low Rate [note] (Musical Notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Low Depth (0~127)—**Modulation depth for the low-range chorus sound.
- **Low Phase (0~180 deg)—**Spaciousness of the low-range chorus sound.
- **High Pre Delay (0.0~100.0ms)—**Delay time from when the original sound is heard to when the high-range chorus sound is heard.
- **High Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the high modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **High Rate [Hz] (0.05~10.00Hz)—**Rate at which the high-range chorus sound is modulated
- **High Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **High Depth (0~127)—**Modulation depth for the high-range chorus sound.
- **High Phase (0~180 deg)—**Spaciousness of the high-range chorus sound.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct sound (D) and the chorus sound (W).
- **Level (0~127)—**Output level.

62. Band Flanger

A flanger that lets you apply an effect independently to the low-frequency and high-frequency ranges.

- **Split Frequency (200~8000Hz)—**Frequency at which the low and high ranges will be divided.
- **Low Pre Delay (0.0~100.0ms)—**Delay time from when the original sound is heard to when the low-range flanger sound is heard.
- **Low Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the low modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Low Rate [Hz] (0.05~10.00Hz)—**Rate at which the low-range flanger sound is modulated.
- **Low Rate [note] (Musical Notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Low Depth (0~127)—**Modulation depth for the low-range flanger sound.
- **Low Phase (0~180 deg)—**Spaciousness of the low-range flanger sound.
- **Low Feedback (–98%~0~+98%)—**Proportion of the low-range flanger sound that is to be returned to the input (negative values invert the phase).
- **High Pre Delay (0.0~100.0ms)—**Delay time from when the original sound is heard to when the high-range flanger sound is heard.
- **High Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the high modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **High Rate [Hz] (0.05~10.00Hz)—**Rate at which the high-range flanger sound is modulated.
- **High Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **High Depth (0~127)—**Modulation depth for the high-range flanger sound.
- **High Phase (0~180 deg)—**Spaciousness of the high-range flanger sound.
- **High Feedback (–98%~0~+98%)—**Proportion of the high-range flanger sound that is to be returned to the input (negative values invert the phase).
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

63. Band Step Flgr

A step flanger that lets you apply an effect independently to the low-frequency and high-frequency ranges.

- **Split Frequency (200~8000Hz)—**Frequency at which the low and high ranges will be divided.
- **Low Pre Delay (0.0~100.0ms)—**Delay time from when the original sound is heard to when the low-range flanger sound is heard.
- **Low Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the low modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Low Rate [Hz] (0.05~10.00Hz)—**Rate at which the low-range flanger sound is modulated.
- **Low Rate [note] (Musical Notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Low Depth (0~127)—**Modulation depth for the low-range flanger sound.
- **Low Phase (0~180 deg)—**Spaciousness of the low-range flanger sound.
- **Low Feedback (–98%~0~+98%)—**Proportion of the low-range flanger sound that is to be returned to the input (negative values invert the phase).
- **Low Step Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the low step rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Low Step Rate [Hz] (0.10~20.00Hz)—**Rate at which the steps will cycle for the low-range flanger sound.
- **Low Step Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **High Pre Delay (0.0~100.0ms)—**Delay from when the original sound is heard to when the high-range flanger sound is heard.
- **High Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the high modulation rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **High Rate [Hz] (0.05~10.00Hz)—**Rate at which the high-range flanger sound is modulated.
- **High Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **High Depth (0~127)—**Modulation depth for the high-range flanger sound.
- **High Phase (0~180 deg)—**Spaciousness of the high-range flanger sound.
- **High Feedback (–98%~0~+98%)—**Proportion of the high-range flanger sound that is to be returned to the input (negative values invert the phase).
- **High Step Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the high step rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **High Step Rate [Hz] (0.10~20.00Hz)—**Rate at which the steps will cycle for the high-range flanger sound.
- **High Step Rate (note) musical notes—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

64. VS Overdrive

This is an overdrive that provides heavy distortion.

- **Drive (0~127)**—Degree of distortion. Also changes the volume.
- **Tone (0~127)**—Sound quality of the Overdrive effect.
- **Amplifier Sw (Off, On)**—Turns the Amp Simulator on/off.
- **Amplifier Type (Small, Built-In, 2-Stack, 3-Stack)**—Type of guitar amp. *SMALL*: small amp, *BUILT*-IN: single-unit type amp, *2-STACK:* large double stack amp, *3-STACK*: large triple stack amp.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high frequency range.
- **Panpot (L64~0~63R)**—Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **Level (0~127)**—Output level.

65. VS Distortion

Produces a more intense distortion than the above. The parameters are the same as for "64. VS Overdrive".

66. GT Amp Simul

This is an effect that simulates the sound of a guitar amplifier.

- **Pre Amp Sw (Off, On)**—Turns the amp switch on/off.
- **Pre Amp Type (**JC-120, Clean Twin, Match Drive, BG Lead, MS1959I, MS1959II, MS1959I+II, SIdn Lead, Metal 5150, Metal Lead, OD-1, OD-2 Turbo, Distortion, Fuzz**)**—Type of guitar amp
- **Pre Amp Volume (0~127)**—Volume and amount of distortion of the amp.
- **Pre Amp Master (0~127)**—Volume of the entire pre-amp.
- **Pre Amp Gain (Low, Middle, High)**—Amount of pre-amp distortion.
- **Pre Amp Bass (0~127)**
- **Pre Amp Middle (0~127)**
- **Pre Amp Treble (0~127)**—Tone of the bass/mid/treble frequency range.
  * Middle cannot be set if "Match Drive" is selected as the Pre Amp Type.
- **Pre Amp Presence (0~127 [Match Drive: –127~0])**—Tone for the ultra-high frequency range.
- **Pre Amp Bright (Off, On)**—Turning this "On" produces a sharper and brighter sound.
  * This parameter applies to the "JC-120", "Clean Twin", and "BG Lead" Pre Amp Types.
- **Speaker Sw (Off, On)**—Determines whether the signal passes through the speaker (ON) or not (OFF).
- **Speaker Type**—Select the type of speaker. The specifications of each type are as follows. The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
Small 1	small open-back enclosure	10	dynamic mic
Small 2	small open-back enclosure	10	dynamic mic
Middle	open back enclosure	12 x 1	dynamic mic
JC-120	open back enclosure	12 x 2	dynamic mic
Built In 1	open back enclosure	12 x 2	dynamic mic
Built In 2	open back enclosure	12 x 2	condenser mic
Built In 3	open back enclosure	12 x 2	condenser mic
Built In 4	open back enclosure	12 x 2	condenser mic
Built In 5	open back enclosure	12 x 2	condenser mic
BG Stack 1	sealed enclosure	12 x 4	condenser mic
BG Stack 2	large sealed enclosure	12 x 4	condenser mic
MS Stack 1	large sealed enclosure	12 x 4	condenser mic
MS Stack 2	large sealed enclosure	12 x 4	condenser mic
Metal Stk	large double stack	12 x 4	condenser mic
2-Stack	large sealed enclosure	12 x 4	condenser mic
3-Stack	large sealed enclosure	12 x 4	condenser mic

- **Mic Setting (1, 2, 3)**—Adjusts the location of the mic that's capturing the sound of the speaker. This can be adjusted in three steps, from 1~3, with the mic becoming more distant as the value increases.
- **Mic Level (0~127)**—Volume of the microphone.
- **Direct Level (0~127)**—Volume of the direct sound.
- **Panpot (L64~0~63R)**—Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **Level (0~127)**—Output level.

67. Gate

Cuts the reverb's decay according to the volume of the sound sent into the effect. Use this when you want to create an artificial-sounding decrease in the reverb's decay.

- **Threshold (0~127)**—Volume level at which the gate begins to close
- **Mode (Gate, Duck)**—Type of gate. *GATE*: The gate will close when the volume of the original sound decreases, cutting the original sound. *DUCK* (Ducking): The gate will close when the volume of the original sound increases, cutting the original sound.
- **Attack (0~127)**—Adjusts the time it takes for the gate to fully open after being triggered.
- **Hold (0~127)**—Adjusts the time it takes for the gate to start closing after the source sound falls beneath the Threshold.
- **Release (0~127)**—Adjusts the time it takes the gate to fully close after the hold time.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

68. Long Delay

A delay that provides a long delay time.

- **Delay Time [sync] (msec, Note)**—Use this parameter to specify whether ("Note") or not ("msec") the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value.
- **Delay Time [msec] (0~2600ms)**—Adjusts the time until the delay is heard.
- **Delay Time [note] (Musical Notes)**—Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Phase (Normal, Inverse)**—Phase of the delay (*NORMAL*: normal phase, *INVERT*: inverted).
- **Feedback (–98%~0~+98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Panpot (L64~0~63R)**—Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

69. Serial Delay

This delay connects two delay units in series. Feedback can be applied independently to each delay unit, allowing you to produce complex delay sounds.

- **Delay 1 Time [sync] (msec, Note)**—Use this parameter to specify whether ("Note") or not ("msec") the delay 1 time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time (msec) or a note value.

- **Delay 1 Time [msec] (0~1300ms)—**Delay time from when sound is input to delay 1 until the delay sound is heard.
- **Delay 1 Time [note] (musical notes)—**Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Delay 1 Feedback (–98%~0~+98%)—**Proportion of the delay sound that is to be returned to the input of delay 1 (negative values invert the phase).
- **Delay 1 HF Damp (200~8000Hz, Bypass)—**Frequency at which the high-frequency content of the delayed sound of delay 1 will be cut (*BYPASS*: no cut).
- **Delay 2 Time [sync] (msec, Note)—**Use this parameter to specify whether ("Note") or not ("msec") the delay 2 time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time (msec) or a note value.
- **Delay 2 Time [msec] (0~1300ms)—**Delay time from when sound is input to delay 2 until the delay sound is heard.
- **Delay 2 Time [note] (musical notes)—**Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Delay 2 Feedback (–98%~0~+98%)—**Proportion of the delay sound that is to be returned to the input of delay 2 (negative values invert the phase).
- **Delay 2 HF Damp (200~8000Hz, Bypass)—**Frequency at which the high-frequency content of the delayed sound of delay 2 will be cut (*BYPASS*: no cut).
- **Panpot (L64~0~63R)—**Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

70. MLT Tap DLY

This effect provides four delays. Each of the Delay Time parameters can be set to a note length based on the selected tempo. You can also set the panning and level of each delay sound.

- **Delay Time 1~4 [sync] (msec, Note)—**Use this parameter to specify whether ("Note") or not ("msec") the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value.
- **Delay 1~4 Time [msec] (0~2600ms)—**Adjusts the time until Delay 1~4 are heard.
- **Delay 1~4 Time [note] (musical notes)—**Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Delay 1 Feedback (–98%~0~+98%)—**Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **HF Damp (200~8000Hz, Bypass)—**Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Delay 1~4 Panpot (L64~0~63R)—**Stereo location of Delays 1~4.
- **Delay 1~4 Level (0~127)—**Output level of Delays 1~4.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

71. Reverse DLY

This is a reverse delay that adds a reversed and delayed sound to the input sound. A tap delay is connected immediately after the reverse delay.

- **Threshold (0~127)—**Volume at which the reverse delay will begin to be applied.
- **Rev Delay Time [sync] (msec, Note)—**Use this parameter to specify whether ("Note") or not ("msec") the reverse delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time (msec) or a note value.
- **Rev Delay Time [msec] (0~1300ms)—**Delay time from when sound is input into the reverse delay until the delay sound is heard.
- **Rev Delay Time [note] (musical notes)—**Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Rev Delay Feedback (–98%~0~+98%)—**Proportion of the delay sound that is to be returned to the input of the reverse delay (negative values invert the phase)
- **Rev Delay HF Damp (200~8000Hz, Bypass)—**Frequency at which the high-frequency content of the reverse-delayed sound will be cut (*BYPASS*: no cut).
- **Rev Delay Panpot (L64~0~63R)—**Panning of the reverse delay sound.
- **Rev Delay Level (0~127)—**Volume of the reverse delay sound.
- **Delay 1 Time [sync] (msec, Note)**
- **Delay 2 Time [sync] (msec, Note)**
- **Delay 3 Time [sync] (msec, Note)—**Use this parameter to specify whether ("Note") or not ("msec") the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value.
- **Delay 1 Time [msec] (0~1300ms)**
- **Delay 2 Time [msec] (0~1300ms)**
- **Delay 3 Time [msec] (0~1300ms)—**Adjusts the time until the delay is heard.
- **Delay 1 Time [note] (musical notes)**
- **Delay 2 Time [note] (musical notes)**
- **Delay 3 Time [note] (musical notes)—**Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Delay 3 Feedback (–98%~0~+98%)—**Proportion of the delay sound that is to be returned to the input of the tap delay (negative values invert the phase).
- **Delay HF Damp (200~8000Hz, Bypass)—**Frequency at which the low-frequency content of the tap delay sound will be cut (*BYPASS*: no cut).
- **Delay 1 Panpot (L64~0~63R)**
- **Delay 2 Panpot (L64~0~63R)—**Panning of the tap delay sounds.
- **Delay 1 Level (0~127)**
- **Delay 2 Level (0~127)—**Volume of the tap delay sounds.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

72. Shuffle DLY

Adds a shuffle to the delay sound, giving the sound a bouncy delay effect with a swing feel.

- **Delay Time [sync] (msec, Note)—**Use this parameter to specify whether ("Note") or not ("msec") the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value.
- **Delay Time [msec] (0~2600ms)—**Adjusts the time until the delay is heard.
- **Delay Time [note] (Musical Notes)—**Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.

- **Shuffle Rate (0~100%)**—Adjusts the ratio (as a percentage) of the time that elapses before Delay B sounds relative to the time that elapses before the Delay A sounds. When set to 100%, the delay times are the same.
- **Acceleration (0~15)**—Adjusts the time over which the Delay Time changes from the current setting to its specified new setting.
- **Feedback (–98%~0~+98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Panpot A (L64~0~63R)**
- **Panpot B (L64~0~63R)**—Stereo location of Delay A/B.
- **Level A (0~127)**
- **Level B (0~127)**—Volume of delay A/B.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

73. 3D Delay

This applies a 3D effect to the delay sound. The delay sound will be positioned 90 degrees left and 90 degrees right.

- **Delay Left Time [sync] (msec, Note)**—Use this parameter to specify whether ("Note") or not ("msec") the left delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value.
- **Delay Left Time [msec] (0~2600ms)**—Adjust the time from the direct sound until when the left delay sound is heard.
- **Delay Left Time [note] (musical notes)**—Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Delay Right Time [sync] (msec, Note)**—Use this parameter to specify whether ("Note") or not ("msec") the right delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value.
- **Delay Right Time [msec] (0~2600ms)**—Adjust the time from the direct sound until when the right delay sound is heard.
- **Delay Right Time [note] (musical notes)**—Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Delay Center Time [sync] (msec, Note)**—Use this parameter to specify whether ("Note") or not ("msec") the center delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value.
- **Delay Center Time (msec) 0~2600 [ms]**—Adjust the time delay from the direct sound until when the center delay sound is heard.
- **Delay Center Time [note] (musical notes)**—Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Center Feedback (–98%~0~+98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Left Level (0~127)**
- **Right Level (0~127)**
- **Center Level (0~127)**—Output level of the delay sound.
- **Output Mode (Speaker, Phones)**—Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers or PHONES when using headphones.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

74. Long Time DLY

A delay in which the delay time can be varied smoothly and allowing an extended delay to be produced.

- **Delay Time [sync] (msec, Note)**—Use this parameter to specify whether ("Note") or not ("msec") the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value.
- **Delay Time [msec] (0~2600ms)**—Adjusts the time until the delay is heard.
- **Delay Time [note] (Musical Notes)**—Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Delay Acceleration (0~15)**—Adjusts the time over which the Delay Time changes from the current setting to a specified new setting. The rate of change for the Delay Time directly affects the rate of pitch change.
- **Feedback (–98%~0~+98%)**—Adjusts the amount of the delay sound that's fed back into the effect. Negative (–) settings invert the phase.
- **Delay HF Damp (200~8000Hz, Bypass)**—Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
- **Panpot (L64~0~63R)**—Stereo location of the output sound. This is a mono effect that combines incoming signals. You can, however, place the processed signal anywhere between the left and right channels.
- **EQ Low Gain (–15dB~0~15dB)**—Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)**—Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

75. Tape Echo

A virtual tape echo that produces a realistic tape delay sound. This simulates the tape echo section of a Roland RE-201 Space Echo.

- **Mode (S, M, L, S+M, S+L, M+L, S+M+L)**—Combination of playback heads to use. Select from three different heads with different delay times. *S*: short, *M*: middle, *L*: long.
- **Repeat Rate (0~127)**—Tape speed. Increasing this value will shorten the spacing of the delayed sounds.
- **Intensity (0~127)**—Amount of delay repeats.
- **Bass (–15dB~0~15dB)**—Boost/cut for the lower range of the echo sound.
- **Treble (–15dB~0~15dB)**—Boost/cut for the upper range of the echo sound.
- **Head S Pan (L64~0~63R)**
- **Head M Pan (L64~0~63R)**
- **Head L Pan (L64~0~63R)**—Independent panning for the short, middle and long playback heads.
- **Tape Distortion (0~5)**—Amount of tape-dependent distortion to be added. This simulates the slight tonal changes that can be detected by signal-analysis equipment. Increasing this value will increase the distortion.
- **Wow/Flutter Rate (0~127)**—Speed of wow/flutter (complex variation in pitch caused by tape wear and rotational irregularity).
- **Wow/Flutter Depth (0~127)**—Depth of wow/flutter.
- **Echo Level (0~127)**—Volume of the echo sound.
- **Direct Level (0~127)**—Volume of the original sound.
- **Level (0~127)**—Output level.

76. LoFi Noise

In addition to a lo-fi effect, this adds various types of noise such as white noise and disc noise.

- **LoFi Type (1, 2, 3, 4, 5, 6, 7, 8, 9)—**Degrades the sound quality. The sound quality grows poorer as this value is increased.
- **Post Filter Type (OFF, LPF, HPF)—**Type of filter. OFF: no filter is used. LPF: cuts the frequency range above the Cutoff value. HPF: cuts the frequency range below the Cutoff value.
- **Post Filter Cutoff (200~8000, Bypass)—**Center frequency of the filter.
- **W/P Noise Type (White, Pink)—**Switch between white noise and pink noise.
- **W/P Noise LPF (200~8000, Bypass)—**Center frequency of the low pass filter applied to the white/pink noise (*BYPASS*: no cut).
- **W/P Noise Level (0~127)—**Volume of the white/pink noise.
- **Disc Noise Type (LP, EP, SP, RND)—**Type of record noise. The frequency at which the noise is heard depends on the selected type.
- **Disc Noise LPF (200~8000Hz, Bypass)—**Adjusts the cutoff frequency of the low pass filter applied to the record noise. If you don't want to filter out any high frequencies, set this parameter to *BYPASS*.
- **Disc Noise Level (0~127)—**Volume of the record noise.
- **Hum Noise Type (50Hz, 60Hz)—**Frequency of the hum noise.
- **Hum Noise LPF (200~8000Hz, Bypass)—**Center frequency of the low pass filter applied to the hum noise (*BYPASS*: no cut).
- **Hum Noise Level (0~127)—**Volume of the hum noise.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

77. LoFi Comp

This is an effect that intentionally degrades the sound quality for creative purposes.

- **Pre Filter Type (1, 2, 3, 4, 5, 6)—**Selects the type of filter applied to the sound before it passes through the Lo-Fi effect.
- **LoFi Type (1, 2, 3, 4, 5, 6, 7, 8, 9)—**Degrades the sound quality. The sound quality grows poorer as this value is increased.
- **Post Filter Type (OFF, LPF, HPF)—**Type of filter. OFF: no filter is used. LPF: cuts the frequency range above the Cutoff value. HPF: cuts the frequency range below the Cutoff value.
- **Post Filter Cutoff (200~8000, Bypass)—**Basic frequency of the Post Filter.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

78. LoFi Radio

In addition to a Lo-Fi effect, this effect also generates radio noise.

- **LoFi Type (1, 2, 3, 4, 5, 6, 7, 8, 9)—**Degrades the sound quality. The sound quality grows poorer as this value is increased.
- **Post Filter Type (OFF, LPF, HPF)—**Type of filter. OFF: no filter is used. LPF: cuts the frequency range above the Cutoff value. HPF: cuts the frequency range below the Cutoff value.
- **Post Filter Cutoff (200~8000, Bypass)—**Basic frequency of the Post Filter.
- **Radio Detune (0~127)—**Simulates the tuning noise of a radio. As this value is raised, the tuning drifts further.
- **Radio Noise Level (0~127)—**Volume of the radio noise.
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.
- **EQ High Gain (–15dB~0~15dB)—**Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

79. Telephone

This effect simulates the tonal character of a telephone transmission.

- **Voice Quality (0~15)—**Audio quality of the telephone voice.
- **Treble (–15dB~0~15dB)—**Bandwidth of the telephone voice.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

80. Phonograph

Simulates a sound recorded on an analog record and played back on a record player. This effect also simulates the various types of noise that are typical of a record and even the rotational irregularities of an old turntable.

- **Signal Distortion (0~127)—**Depth of distortion.
- **Frequency Range (0~127)—**Frequency response of the playback system. Decreasing this value will produce the impression of an old system with a poor frequency response.
- **Disc Type (LP, EP, SP)—**Rotational speed of the turntable. This will affect the frequency of the scratch noise.
- **Scratch Noise Level (0~127)—**Amount of noise due to scratches on the record.
- **Dust Noise Level (0~127)—**Volume of noise due to dust on the record.
- **Hiss Noise Level (0~127)—**Volume of continuous "hiss".
- **Total Noise Level (0~127)—**Volume of overall noise.
- **Wow (0~127)—**Depth of long-cycle rotational irregularity.
- **Flutter (0~127)—**Depth of short-cycle rotational irregularity.
- **Random (0~127)—**Depth of indefinite-cycle rotational irregularity.
- **Total Wow/Flutter (0~127)—**Depth of overall rotational irregularity.
- **Balance (D100:0W, D50:50W, D0:100W)—**Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)—**Output level.

81. Step Pitch

A pitch shifter in which the amount of pitch shift is varied by a 16-step sequence.

- **Step 1~16 (–24~0~12 semitones)—**Amount of pitch shift at each step (semitone units)
- **Rate [sync] (Hz, Note)—**Use this parameter to specify whether ("Note") or not ("Hz") the rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.
- **Rate [Hz] (0.05~10.00Hz)—**Rate at which the 16-step sequence will cycle.
- **Rate [note] (musical notes)—**Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Attack (0~127)—**Speed at which the amount of pitch shift changes between steps.
- **Gate Time (0~127)—**Duration of the pitch shifted sound at each step.
- **Fine (–100~100)—**Pitch shift adjustment for all steps (2-cent units).
- **Delay Time [sync] (msec, Note)—**Use this parameter to specify whether ("Note") or not ("msec") the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value.
- **Delay Time [msec] (0~1300ms)—**Delay time from the original sound until the pitch-shifted sound is heard.
- **Delay Time [note] (Musical Notes)—**Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.
- **Feedback (–98%~0~+98%)—**Proportion of the pitch-shifted sound that is to be returned to the input (negative values invert the phase).
- **EQ Low Gain (–15dB~0~15dB)—**Gain of the low frequency range.

- **EQ High Gain (–15dB~0~15dB)**—Gain of the high frequency range.
- **Balance (D100:0W, D50:50W, D0:100W)**—Volume balance between the direct (D) and the effect sound (W).
- **Level (0~127)**—Output level.

82. Sympa Reso

On an acoustic piano, holding down the damper pedal allows other strings to resonate in sympathy with the notes you play, creating rich and spacious resonances. This effect simulates these sympathetic resonances.

- **Depth (0~127)**—Depth of the effect.
- **Damper (0~127)**—Depth to which the damper pedal is pressed (controls the resonant sound).
- **Pre LPF (16~15000Hz, Bypass)**—Frequency of the filter that cuts the high-frequency content of the input sound (*BYPASS*: no cut).
- **Pre HPF (16~15000Hz, Bypass)**—Frequency of the filter that cuts the low-frequency content of the input sound (*BYPASS*: no cut).
- **Peaking Freq (200~8000Hz, Bypass)** —Frequency of the filter that boosts/cuts a specific frequency region of the input sound.
- **Peaking Gain (–15dB~0~15dB)**—Amount of boost/cut produced by the filter at the specified frequency region of the input sound.
- **Peaking Q (0.5, 1.0, 2.0, 4.0, 8.0)**—Width of the frequency region boosted/cut by the 'Peaking Gain' parameter (larger values make the region narrower).
- **HF Damp (16~15000Hz, Bypass)**—Frequency at which the high-frequency content of the resonant sound will be cut (*BYPASS*: no cut).
- **LF Damp (16~15000Hz, Bypass)**—Frequency at which the low-frequency content of the resonant sound will be cut (*BYPASS*: no cut).
- **Lid (6, 5, 4, 3, 2, 1)**—This simulates the actual changes in sound that occur when the lid of a grand piano is set at different heights.
- **EQ Low Frequency (200Hz, 400Hz)**—Frequency of the low-range EQ.
- **EQ Low Gain (–15dB~0~15dB)**—Amount of low-range boost/cut.
- **EQ Mid Frequency (200~8000Hz)** —Frequency of the midrange EQ.
- **EQ Mid Gain (–15dB~0~15dB)**—Amount of midrange boost/cut.
- **EQ Mid Q (0.5, 1.0, 2.0, 4.0, 8.0)**—Width of midrange (larger values make the region narrower).
- **EQ High Frequency (2000Hz, 4000Hz, 8000Hz)**—Frequency of the high-range EQ.
- **EQ High Gain (–15dB~0~15dB)**—Amount of high-range boost/cut.
- **Level (0~127)**—Output level.

83. Vib-Od-Rotary

This effect combines an overdrive and a rotary with Vibrato/Chorus. The vibrato effect cyclically modulates the pitch of organ sounds (which is not the same as the Rotary effect). The chorus effect mixes the normal sound of the organ with a sound to which vibrato has been applied, adding richness and spaciousness to the sound.

- **Vibrato Chorus Switch (Off, On)**—Turns the Vibrato Chorus on/off.
- **Vibrato Chorus Type (V-1, V-2, V-3, C-1, C-2, C-3)**—
  V-1, V-2, V-3: This applies vibrato (pitch modulation). Increasing the value will produce a deeper effect.
  C-1, C-2, C-3: This applies chorus to add depth and spaciousness to the sound. Increasing the value will produce a deeper effect.
- **Vibrato Chorus Vintage ('50, '60, '70)**—Tonewheel sounds of the 1950s, '60s and '70.
- **Vibrato Chorus Level (0~127)**—Level of the Vibrato Chorus effect.
- **Overdrive Switch (Off, On)**—Turns the Overdrive on/off
- **Overdrive Drive (0~127)**—Degree of distortion
- **Overdrive Level (0~127)**—Sets the Overdrive output level.
- **Rotary Switch (Off, On)**—Turns the Rotary on/off.
- **Rotary Speed (Slow, Fast)**—Rotational speed of the rotating speaker.
- **Rotary Woofer Slow Speed (0.05~10.00Hz)**—Low-speed rotation speed of the woofer.
- **Rotary Woofer Fast Speed (0.05~10.00Hz)**—High-speed rotation speed of the woofer.
- **Rotary Woofer Acceleration (0~15)**—Adjusts the time it takes the rotor woofer to reach the newly selected speed ("Fast" or "Slow"). Lower values correspond to slower transitions.
- **Rotary Woofer Level (0~127)**—Sets the woofer level.
- **Rotary Tweeter Slow Speed (0.05~10.00Hz)**—Low-speed rotation speed of the tweeter.
- **Rotary Tweeter Fast Speed (0.05~10.00Hz)**—High-speed rotation speed of the tweeter.
- **Rotary Tweeter Acceleration (0~15)**—Adjusts the time it takes the rotor tweeter to reach the newly selected speed ("Fast" or "Slow"). Lower values correspond to slower transitions.
- **Rotary Tweeter Level (0~127)**—Sets the tweeter level.
- **Rotary Separation (0~127)**—Spatial dispersion of the sound.
- **Rotary Level (0~127)**—Sets the output level of the effect.

84. Center Canc

Removes the sounds that are localized at the center of the stereo input. This is a convenient way to eliminate a vocal.

- **L-R Balance (–50~0~50)**—Volume balance of the L (left) and R (right) channels for removing the sound.
- **Range Low (16~15000Hz)**—Lower frequency limit of the band to be removed.
- **Range High (16~15000Hz)**—Upper frequency limit of the band to be removed.

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Information

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As of Oct. 1, 2010 (ROLAND)

For EU Countries

UK This symbol indicates that in EU countries, this product must be collected separately from household waste, as defined in each region. Products bearing this symbol must not be discarded together with household waste.

DE Dieses Symbol bedeutet, dass dieses Produkt in EU-Ländern getrennt vom Hausmüll gesammelt werden muss gemäß den regionalen Bestimmungen. Mit diesem Symbol gekennzeichnete Produkte dürfen nicht zusammen mit den Hausmüll entsorgt werden.

FR Ce symbole indique que dans les pays de l'Union européenne, ce produit doit être collecté séparément des ordures ménagères selon les directives en vigueur dans chacun de ces pays. Les produits portant ce symbole ne doivent pas être mis au rebut avec les ordures ménagères.

IT Questo simbolo indica che nei paesi della Comunità europea questo prodotto deve essere smaltito separatamente dai normali rifiuti domestici, secondo la legislazione in vigore in ciascun paese. I prodotti che riportano questo simbolo non devono essere smaltiti insieme ai rifiuti domestici. Ai sensi dell'art. 13 del D.Lgs. 25 luglio 2005 n. 151.

ES Este símbolo indica que en los países de la Unión Europea este producto debe recogerse aparte de los residuos domésticos, tal como esté regulado en cada zona. Los productos con este símbolo no se deben depositar con los residuos domésticos.

PT Este símbolo indica que nos países da UE, a recolha deste produto deverá ser feita separadamente do lixo doméstico, de acordo com os regulamentos de cada região. Os produtos que apresentem este símbolo não deverão ser eliminados juntamente com o lixo doméstico.

NL Dit symbool geeft aan dat in landen van de EU dit product gescheiden van huishoudelijk afval moet worden aangeboden, zoals bepaald per gemeente of regio. Producten die van dit symbool zijn voorzien, mogen niet samen met huishoudelijk afval worden verwijderd.

DK Dette symbol angiver, at i EU-lande skal dette produkt opsamles adskilt fra husholdningsaffald, som defineret i hver enkelt region. Produkter med dette symbol må ikke smides ud sammen med husholdningsaffald.

NO Dette symbolet indikerer at produktet må behandles som spesialavfall i EU-land, iht. til retningslinjer for den enkelte regionen, og ikke kastes sammen med vanlig husholdningsavfall. Produkter som er merket med dette symbolet, må ikke kastes sammen med vanlig husholdningsavfall.

SE Symbolen anger att i EU-länder måste den här produkten kasseras separat från hushållsavfall, i enlighet med varje regions bestämmelser. Produkter med den här symbolen får inte kasseras tillsammans med hushållsavfall.

FI Tämä merkintä ilmaisee, että tuote on EU-maissa kerättävä erillään kotitalousjätteistä kunkin alueen voimassa olevien määräysten mukaisesti. Tällä merkinnällä varustettuja tuotteita ei saa hävittää kotitalousjätteiden mukana.

HU Ez a szimbólum azt jelenti, hogy az Európai Unióban ezt a terméket a háztartási hulladéktól elkülönítve, az adott régióban érvényes szabályozás szerint kell gyűjteni. Az ezzel a szimbólummal ellátott termékeket nem szabad a háztartási hulladék közé dobni.

PL Symbol oznacza, że zgodnie z regulacjami w odpowiednim regionie, w krajach UE produktu nie należy wyrzucać z odpadami domowymi. Produktów opatrzonych tym symbolem nie można utylizować razem z odpadami domowymi.

CZ Tento symbol udává, že v zemích EU musí být tento výrobek sbírán odděleně od domácího odpadu, jak je určeno pro každý region. Výrobky nesoucí tento symbol se nesmí vyhazovat spolu s domácím odpadem.

SK Tento symbol vyjadruje, že v krajinách EÚ sa musí zber tohto produktu vykonávať oddelene od domového odpadu, podľa nariadení platných v konkrétnej krajine. Produkty s týmto symbolom sa nesmú vyhadzovať spolu s domovým odpadom.

EE See sümbol näitab, et EL-i maades tuleb see toode olemprügist eraldi koguda, nii nagu on igas piirkonnas määratletud. Selle sümboliga märgitud tooteid ei tohi ära visata koos olmeprügiga.

LT Šis simbolis rodo, kad ES šalyse šis produktas turi būti surenkamas atskirai nuo buitinių atliekų, kaip nustatyta kiekviename regione. Šiuo simboliu paženklinti produktai neturi būti išmetami kartu su buitinėmis atliekomis.

LV Šis simbols norāda, ka ES valstīs šo produktu jāievāc atsevišķi no mājsaimniecības atkritumiem, kā noteikts katrā reģionā. Produktus ar šo simbolu nedrīkst izmest kopā ar mājsaimniecības atkritumiem.

SI Ta simbol označuje, da je treba proizvod v državah EU zbirati ločeno od gospodinjskih odpadkov, tako kot je določeno v vsaki regiji. Proizvoda s tem znakom ni dovoljeno odlagati skupaj z gospodinjskimi odpadki.

GR Το σύμβολο αυτό υποδηλώνει ότι στις χώρες της E.E. το συγκεκριμένο προϊόν πρέπει να συλλέγεται χωριστά από τα υπόλοιπα οικιακά απορρίμματα, σύμφωνα με όσα προβλέπονται σε κάθε περιοχή. Τα προϊόντα που φέρουν το συγκεκριμένο σύμβολο δεν πρέπει να απορρίπτονται μαζί με τα οικιακά απορρίμματα.

For China

有关产品中所含有害物质的说明

本资料就本公司产品中所含的特定有害物质及其安全性予以说明。

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此标志适用于在中国国内销售的电子信息产品，表示环保使用期限的年数。所谓环保使用期限是指在自制造日起的规定期限内，产品中所含的有害物质不致引起环境污染，不会对人身、财产造成严重的不良影响。

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○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。

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因根据现有的技术水平，还没有什么物质能够代替它。

Roland

602.00.0477.01 RES 819-11 JM-5 – OM/E2